

Physicians' practices in sickness certification for common mental disorders

**Assessment of work capacity
and communication with the
patient's workplace**

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“A man who carries a cat by the tail learns something he can learn in no other way.”

Mark Twain

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ABSTRACT

Physicians are key stakeholders in the sickness certification process. The first aim of this thesis was to examine physicians' sickness certification practices from two perspectives: the assessment of work capacity and contacts with patients' employers. A second aim was to develop and evaluate a tool with the purpose to facilitate such assessments and contacts in the sick leave process of primary healthcare patients with common mental disorders (CMD).

Methods: In a systematic literature review, results from twelve qualitative studies about physicians' clinical practices when assessing work capacity were synthesized. To explore general practitioners (GPs) contacts with sick-listed patients' employers, answers from 4228 GPs' responding to a nationwide questionnaire about sickness certification practices were analysed. The tool, a communication facilitator, was developed inductively based on data from six qualitative studies about work capacity and CMD, and was used in a pragmatic trial in primary healthcare. Effects of using the tool on length of sick leave was evaluated using sickness absence register data for participants in the pragmatic trial ($n=56$). User perceptions were explored qualitatively in individual interviews ($n=13$).

Results: Study I showed that when physicians assess work capacity, they use both medical and non-medical skills and resources to collect and interpret information about the medical condition as well as other aspects concerning the patient and his/her context. Their main source of information was the patient, while contacts with employers were rare. Study II demonstrated that about four of ten Swedish GPs had direct or indirect contacts with patients' employers. The strongest association with having such contacts was shown for regular collaboration with a rehabilitation coordinator. Other factors of importance for having and being

satisfied with one's employer contacts were finding employer contacts important, collaborating with other health professionals and having organizational resources such as a joint sickness certification policy and managerial support. Study III showed that the communication facilitator, the Capacity Note, had the potential to improve communication about work and health between GPs, patients and employers, but any effects on length of sick leave could not be demonstrated in study IV.

Conclusions: The assessment of work capacity is a complex task where a multitude of aspects are considered by the physician. Providing physicians with resources such as time, insurance medical training and methods to assess the workplace could improve the assessment. Having appropriate organizational resources is also of importance for GPs' contacts with patients' employers. The communication facilitator seemed to be acceptable to users and relevant for its purpose but could not be fully evaluated due to a limited sample size in the pragmatic trial. A larger trial will be necessary to test if it can affect sickness absence in patients with CMD.

Keywords: physicians, general practitioners, common mental disorders, mental health, work capacity, sick leave, return to work, collaboration

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SAMMANFATTNING PÅ SVENSKA

Läkare har en central roll i sjukskrivningsprocessen för patienter med lättare psykisk ohälsa. Den här avhandlingen undersöker läkares arbete med sjukskrivning utifrån två perspektiv: bedömning av patienters arbetsförmåga och kontakter med sjukskrivna patienters arbetsgivare. Den beskriver också utvecklingen och utvärderingen av ett kommunikationsverktyg med syftet att underlätta sådana bedömningar och kontakter.

Först gjordes en sammanställning av tidigare forskning om hur läkare gör när de bedömer arbetsförmåga. Översikten visade att läkare tar hänsyn till både medicinska och icke-medicinska faktorer och att bedömningen är komplex och unik för varje patient. För att inhämta och värdera informationen använder läkarna sin medicinska kunskap, men också intuition och tillit till patienten. Arbetsförmågan kan inte mätas exakt, utan läkaren gör en bedömning vad som kan vara rimligt i den aktuella situationen.

I den andra studien undersöktes i vilken utsträckning läkare har kontakt med sjukskrivna patienters arbetsgivare, och hur nöjda de är med dessa kontakter. Detta gjordes genom att analysera svaren från 4228 primärvårdsläkare som deltog i en enkät om deras arbete med sjukskrivning. Studien visade att cirka 4 av 10 primärvårdsläkare har kontakt med patienters arbetsgivare, antingen via gemensamma möten eller via andra typer av kontakter. Att samarbeta med andra yrkeskategorier på vårdcentralen, särskilt med en så kallad rehabkoordinator, hade ett starkt samband med att ha arbetsgivarkontakter. De läkare som hade stöd från sin chef och hade tillräckligt med resurser för sitt jobb med sjukskrivning var i högre grad nöjda med sina kontakter.

Kommunikationsverktyget utvecklades genom att analysera och sammanställa resultaten från sex studier där patienter och hälso- och sjukvårdspersonal gett sin bild av arbetsförmåga vid lättare psykisk ohälsa. Det färdiga verktyget, Resurslappen, var ett pappersformulär med frågor om patientens arbetsförmåga och arbetssituation. Det användes av läkare, patienter och patienters chefer i en studie i primärvården. Användarnas uppfattningar om kommunikationsverktyget undersöktes med hjälp av intervjuer och det framkom att verktyget hade potential att förbättra kommunikation om hälsa och arbete mellan de olika parterna. Sedan användes data från Försäkringskassans register för att utvärdera om användningen av kommunikationsverktyget hade någon effekt på patienternas sjukfrånvaro, men på grund av för få deltagare kunde inga slutsatser dras. Verktyget behöver testas i en större studie för att veta mer säkert om det kan påverka sjukfrånvaro hos patienter med lättare psykisk ohälsa.

LIST OF PAPERS

This thesis is based on the following studies, referred to in the text by their Roman numerals:

- I. Nordling P, Priebe G, Björkelund C, Hensing G. Assessing work capacity – reviewing the what and how of physicians’ clinical practice. *BMC Fam Pract* **21**, 72 (2020).
- II. Nordling P, Alexanderson K, Hensing G, Lytsy P. Factors associated with general practitioners’ contacts with sick-listed patients’ employers: A Swedish nationwide questionnaire study. *Scand J Public Health*. 2021 Oct 23:14034948211053141. Online ahead of print.
- III. Nordling P, Jakobsson A, Hensing G. The capacity note – a communication facilitator in the sick leave process of patients with common mental disorders. A qualitative study of user perceptions. *Submitted*.
- IV. Nordling P, Nwaru C, Nordeman L, Skoglund I, Larsson M, Björkelund C, Hensing G. Early and systematic communication between general practitioners, patients on sick leave due to common mental disorders, and employers. Results from a randomized pilot trial in the Capacity Note project. *In manuscript*.

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ABBREVIATIONS

CMD	Common Mental Disorders
GP	General Practitioner
PHCC	Primary Healthcare Center
RTW	Return To Work
SSIA	Swedish Social Insurance Agency

INTRODUCTION

Sickness insurance is a central part of the Swedish welfare system. To receive financial compensation when injury or disease reduces the capacity to work and prevents work participation is important for both the individual (e.g., financial security) and society at large (e.g., stability of the labour market). Physicians have an important role since they certify the illness and the capacity to work. In primary healthcare, sickness certification of patients with common mental disorders (CMD) is a common but challenging task for general practitioners (GPs). This thesis focuses on two specific parts of the sickness certification task – the assessment of work capacity and communication with employers.

The physician's role in sickness certification

The physician has a central role in the sickness certification process. The task may differ somewhat between countries, depending on legislations and social insurance systems, but it generally involves:

- setting a diagnosis,
- choosing and providing the appropriate treatment and rehabilitation,
- assessing if and how the diagnosis or injury reduces the patient's capacity to work,
- determining if there is a need for sick leave and if so, to what extent,
- determining the need for involving other stakeholders and, when needed, cooperating with them,
- making a plan for the sick leave and rehabilitation period,
- issuing a sickness certificate where this information is clearly communicated, and
- doing follow-ups and revising the plan when necessary.

This is in many ways similar to handling consultations where sick leave is not relevant (diagnosing – treatment – follow-up). However, there are also significant differences.

Physicians' competences and resources

Research shows that many physicians experience sickness certification as problematic (1). Barriers to good sickness certification practices are found both within and outside the healthcare system and include the complexity of the clinical

assessment, time constraints, physicians' insufficient competence in insurance medicine, lack of validated tools to assess work capacity, lack of knowledge of specific workplaces, poor organizational support, societal attitudes to sick leave, social insurance regulations, conflicting expectations, and poor stakeholder collaboration (1-3).

In some countries, such as the Netherlands, sickness certification is handled by insurance or occupational physicians, specialists with several years of education and training in insurance medicine and occupational health. But in most countries, sickness certification is handled by GPs, and they usually have a very limited training in insurance medicine (2, 4-7). In Sweden, physicians have reported that most of their insurance medical competence is acquired through informal learning situations such as through colleagues and patients (8).

An insurance medical decision support (in Swedish: Försäkringsmedicinska beslutsstödet, FMB) was introduced in Sweden in 2007-2008 with general as well as condition specific recommendations, sometimes with suggestions for length and level of sick leave and rehabilitation aspects (9). The purpose was to facilitate and align physicians' assessments. GPs have reported that it can facilitate communication about sick leave, in particular with the patient, and improve the quality of their sickness certification practices (10). At the same time, nearly half of the GPs experienced problems using it. It has also been criticized for being developed without much involvement of clinicians and for being too static (11).

Sickness certification also requires some more intangible competences. As in any meeting with a patient, physicians need to master communication (2, 12). To listen actively and give adequate responses (both informative and emotional) is important for understanding the patient's concerns and for the patient's satisfaction and compliance (12, 13). Physicians must also be able to collaborate, and handle conflicting views, including being able to say no to sick leave requests that are not justified by the patient's health condition (1, 2).

The double roles

Physicians are primarily "healers"; their focus is set on examining, diagnosing and providing treatment to the patient. Following the Hippocratic oath, they should never harm, when possible, heal, often bring relief, and always comfort (14). They should seek what is best for the patient, and decisions should be made in mutual agreement with the patient (14). In sickness certification, physicians must take on another, potentially conflicting, role – that of medical expert in relation to juridical decisions (15). The physician's assessment of the patient's condition and work

capacity is the basis for the patient's entitlement to benefits, and serves as a gatekeeping function towards the resources of the society. As such, the assessment is expected to not be biased. There is an inherent tension between these two roles which physicians consider very problematic (1, 16). The physician must balance the patient's needs and wishes and formal rules and procedures. Inability to do so might have negative effects on the doctor-patient relationship (16).

Work capacity

Definition

There is no set definition of work capacity. The terminology varies throughout the scientific literature and include for example work ability (17), fitness for work (18), and job performance (19). Work capacity also defined differently in different contexts, depending on perspective (medical, legal, financial, etc.) (20-22). In this thesis, the term 'work capacity' is used and the concept is understood from a biopsychosocial perspective. Capacity refers to what possibility or prospect the individual has to perform his/her work and go beyond (but do not exclude) the individual's medical fitness. For example, private and work-related support and resources are also of importance for having work capacity.

The International Classification of Functioning, Disability and Health (ICF) is a classification adopted by the WHO in 2001 (23) which enables a structured and standardized description of a person's functional state, i.e., how a person's functioning is affected by a disease or injury. It is based on a biopsychosocial model of functioning and a person's level of functioning is described as "a dynamic interaction between her or his health condition, environmental factors, and personal factors". Work capacity arises in the meeting of this functioning in a specific work situation, in the interaction between a person's resources and the demands of the work place. This means that work capacity is relational and context dependent. The Person-Environment-Occupation (PEO) model (24) defines work capacity as a result of the interaction between personal, environmental and occupational factors. The person is a unique being with his/her own set of characteristics and capacities. The environment includes the physical, social and institutional contexts in which the person is situated. The occupation is the activities and tasks that the person engages in. When the three domains fit well together, meaningful participation (as experienced by the person) can be achieved. The model emphasizes the dynamic nature of work capacity as all three components will vary over time.

Assessment of work capacity in patients with CMD

Given the complexity of the concept, assessment of a patient's work capacity is a challenging task. Physicians, in particular GPs, have reported that it is the most problematic task of sickness certification (25), and large variations between different assessors have been reported (26, 27). The assessment is considered particularly difficult in conditions like CMD where symptoms are often fluctuating and also difficult to verify or measure objectively (28-31). A patient may have no objective signs at the clinic, yet present a plausible description of for example emotional and cognitive disturbances, insomnia and tiredness. This poses a challenge for the certifying physician when determining a diagnosis and estimating the effect on functioning and work capacity. Even for the same diagnosis, there is a great individual variation in how work capacity is affected (28, 29, 31). In addition, the scientific knowledge of these associations is still limited (32) and there is a lack of tools to adequately assess functioning in patients with CMD (33).

Work capacity in the sickness certificate

Sickness certificates should describe relevant findings and observations, objective measures (if possible), and descriptions of how functioning and work capacity are affected (15). There should be a clear connection between diagnosis, (reduced) functioning, and (reduced) work capacity. Reduced functioning is the effect of the disease/injury on bodily functions, such as inability to lift, bend or concentrate. Activity limitations are the consequences of the reduced functioning on the person's activities, for example cannot walk the dog, cannot lift the groceries. In the context of sickness certification, activity limitations refer only to activities in relation to work – i.e., work capacity – such as cannot operate a certain machine or can only work short periods before needing a break. For patients with CMD, reduced functioning can be for example lack of energy, difficulties concentrating, and sensitivity to stress, light or noise. The related work capacity limitations can be for example cannot keep up work speed, cannot learn new tasks and reduced social abilities such as having contacts with customers or clients.

Common mental disorders

Definition

Mental ill-health is a wide term, which can include anything from subjective feelings of discomfort to severe psychiatric diseases. Psychiatric diagnoses are conditions of mental ill-health that fulfil certain diagnostic criteria defined in the International Statistical Classification of Diseases and Related Health Problems (ICD-10) (34). Common mental disorders (CMD) are psychiatric diagnoses that are, in comparison, less severe and more common in the population. With minor variations across different contexts, the term generally includes depression, anxiety disorders, and adjustment and stress-related disorders (35, 36). Sometimes, substance abuse disorders (37). The term ‘stress-related disorders’ generally refers to mental health problems caused by long-term psychosocial stress. In Sweden, since 2005, ‘exhaustion disorder’ is a clinical diagnose (code F43.8A in ICD-10) used for stress-related exhaustion, and the criteria are similar to those of burnout. Burnout is a psychological concept often used internationally to refer mental health problems caused by psychosocial stressors at work.

Table 1. Overview of CMD diagnoses.

ICD-10 code	Diagnosis	Sub-categories
F32	Depressive episode	F32.0 Mild F32.1 Moderate
F40	Phobic anxiety disorders	
F41	Other anxiety disorders	F41.0 Panic disorder F41.1 Generalized anxiety disorder (GAD)
F42	Obsessive-compulsive disorder (OCD)	
F43	Reaction to severe stress, and adjustment disorders	F43.0 Acute stress reaction F43.1 Post-traumatic stress disorder (PTSD) F43.2 Adjustment disorder F43.8A Exhaustion disorder (ED)

Prevalence, symptoms and treatment

OECD has estimated that about 15% of the general working population are affected by common mental disorders at a given point in time (38). A systematic review and meta-analysis of the global prevalence of CMD estimated that 17.6% of adults aged 16-65 experienced a CMD during the last 12 months, and 29.2% during their lifetime (37). The numbers are similar in Sweden (39, 40). Stress-related illness has become increasingly common in working populations (41). In a sample of the Swedish working population ($n=1000$), 13% reported high levels of burnout (42). The same numbers were found among British workers (43). Research also shows that comorbidity (having several CMDs at the same time) is common, possibly in more than half of the cases (40, 44, 45). The conditions can be longstanding and recurrent episodes are common.

CMDs, and even subthreshold symptoms of them, have negative effects on functioning, work capacity and general health (46-49). Higher symptom severity is associated with poorer outcomes (46, 47, 50). Although being separate diagnoses, many symptoms overlap and can include feelings of sadness or hopelessness, worries, irritability, anxiety attacks, lack of energy, and physical symptoms such as headaches, heart palpitations, and stiffness and/or pain.

Most consultations regarding CMD occur in primary care (45, 51, 52). Therefore, general practitioners have a central role in diagnosing and treatment of CMD. The treatment generally includes psychological treatment such as cognitive behavioural therapy (CBT) and/or pharmacological treatment with antidepressants (52). First-hand choice of treatment varies depending on diagnosis and severity. Referral to physiotherapist or occupational therapist can be a complement. For depression, it is also recommended to offer the patient a care manager to coordinate the care. The use of care managers increases accessibility and continuity of care and has shown positive effects on use of pharmacological medication and return to work (53).

CMD and sick leave

Common mental disorders are now the leading cause of sick leave in many developed countries (38, 54, 55). In Sweden, stress-related disorders have increased significantly and constituted over half of all ongoing sick leave cases due to psychiatric diagnoses in both women and men in 2019 (56). Exhaustion disorder was the single most common diagnosis, accounting for 18% and 13% of ongoing sick leave cases among women and men, respectively (56). Psychiatric disorders generally lead to longer sick leave spells than other diagnoses. In Sweden, in 2018-

2019, the median length was 90 days for psychiatric diagnoses, compared to 49 for all diagnoses (56). People with previous or current sick leave due to CMD also have an increased risk of new sick leave due to CMD (57, 58). In a Dutch study of 137,172 workers, recurrences of sickness absence were equally common in all CMDs (58). Recurrences were more frequent in women under the age of 45, and in 90% of cases, the recurrences occurred within 3 years (58). A Norwegian study found that depression and anxiety together, or anxiety alone, predict longer and more frequently recurring sick leave episodes. The effect of anxiety, but not depression, on sick leave was stable over a long time (follow-up 6 years) (59).

Risk factors for CMD and associated sick leave

CMDs are more common among women than men in the working population (42, 43, 60), and so is sickness absence due to CMD (54, 61). A Swedish report estimated that women have a 21% increased risk of any sick leave compared to men. For psychiatric diagnoses the risk was 31% higher and for stress-related disorders in particular, women had a 40% increased risk of sick leave (56). Differences in working conditions in female versus male-dominated work sectors, and differences in home-related demands have been proposed as possible explanations (42, 62). Work factors that can contribute to CMDs are high job strain, high effort–reward imbalance, low social support in the workplace, workplace conflicts, job insecurity and organizational injustice (63). In a study among British workers, persons in “caring personal service occupations” had the highest risk of CMD (43). Swedish studies show that persons in welfare service occupations in healthcare, education and social services, i.e., professions with high levels of interpersonal contacts, have a higher risk for sick leave due to CMD (56, 61). These occupations are generally in the public sector, women-dominated and constitute a large part of the workforce. Employees in several of these occupations report that their work is mentally straining (64). While all-cause sickness absence generally increases with age, sick leave due to mental diagnoses is more common in younger persons (55, 56, 61). Other predictors of sickness absence due to CMD are symptom severity (50, 57), previous absenteeism (57), co-morbidity (57), psychosocial stressors at work (for example effort-reward imbalance) (57, 65), lower education (56, 57), high job strain (57) and low perceived general health (57).

Consequences of sick leave due to CMD

Sickness absence, in particular longer spells, is associated with an increased risk of financial and social marginalization (66). It is a predictor for recurrent sick leave (67), further health problems (68) and increased mortality (69). Persons with

diagnosed or sub-threshold CMD are more likely to be sickness absent (50) and have a higher risk of disability pension than those not affected by CMD (46, 47, 70, 71). How social insurance systems are designed, and how stakeholders within it act, has importance for the social and financial consequences of both sickness absence and permanent labour market exit. Political decisions regarding benefit levels and desired numbers of recipients, as well as the handling of individual sick leave cases by physicians, employers, and insurance officials, affect these outcomes in individuals. For example, very low benefit levels or denial of benefit claims due to medical certificates of poor quality can push people into poverty and social exclusion. It is therefore important to continually evaluate and refine the sickness certification process.

Return to work after sick leave due to CMD

The RTW process for individuals with CMD can be complex, and there is not one way for a given diagnosis. As for other conditions where symptoms fluctuate, it's a constant balancing of resources and demands (72, 73). Early RTW for persons on sick leave due to CMD is predicted by lower symptom severity (57, 74), better work capacity at baseline (74), no previous absenteeism (57), younger age (57), lower education (74), positive expectations about treatment (74) positive expectations about RTW (57), and perceiving interactions with the supervisor as fair (74). In addition, a meta-analysis of prognostic factors for RTW among people with CMD, concluded that enhancing the patients' self-efficacy and collaborating with the employer might be of importance (75) .

Self-reported barriers to work participation for persons with CMD are the invisible and unpredictable nature of CMD symptoms, prejudices and negative perceptions of mental disorders, uncertainty about the right time for RTW, lack of support from healthcare, lack of social support at the workplace, lack of relevant work adjustments, and difficulties implementing RTW strategies at the workplace (76, 77).

Interventions to improve RTW after sick leave due to CMD

There is limited knowledge how to best support patients with CMD to return to their work. Symptom reduction does not necessarily lead to a reduction in sickness absence (78). A systematic review on interventions to improve RTW in people with depression found that it is unclear whether clinical interventions reduce the number of sick leave days (79). There was low to moderate quality evidence that a combination of workplace and clinical intervention reduces symptoms and lead to

fewer sick leave days in the first year but does not lead to more persons being at work after one year compared to care as usual. Workplace interventions alone did not improve RTW. Another systematic review of clinical and work-directed interventions to enhance RTW in persons with a common mental illness found similar results – the interventions reduced the number of sick leave days but did not improve RTW rates (35). Both concluded that more knowledge is needed about which interventions or combinations of interventions works best. The evidence regarding adjustment disorders is even less clear. A systematic review of interventions to improve return to work in persons with adjustment disorders found that psychological interventions might facilitate at least partial return to work, but the studies were small and few and no work-directed interventions were included in the analysis (80). There is a need for more research on interventions which include the workplace.

The Swedish sickness insurance system

The Swedish sickness insurance covers almost everyone who lives or works in Sweden (81). The insurance reimburses financial loss resulting from reduced capacity to work due to an injury or disease, and a person is entitled to sickness absence benefits if the injury or disease reduces the capacity to work with at least 25%. A person can be on sick leave for 25, 50, 75 or 100% of their working hours. For the first 7 days, the sick/injured person certifies herself that he/she cannot work. From day 8, a sickness certificate issued by a physician is needed. The employer covers the expenses for the first 14 days of sick leave (except for a reduction equivalent of one day sick pay). From day 15, the social insurance system and the Swedish Sickness Insurance Agency (SSIA) handles the administration and payments of sickness absence benefits. The decision whether a person is eligible for benefits is taken by an SSIA official based on the information provided in the sickness certificate. The SSIA official typically has no formal medical education and no personal knowledge of the patient.

The right to benefits is assessed differently depending on for how long the worker has been on sick leave (81). The general rule (which has some exceptions) is:

Day 1-90	Sickness benefits are granted if the person cannot perform his/her own job.
Day 91-180	Sickness benefits are granted if the person cannot perform any job at their employer.
Day 181-365	Sickness benefits are granted if the person cannot perform any job on the labour market.

After 365 days, sickness absence benefits are granted only in exceptional cases, for example when severe illness prevents a thorough assessment of work capacity.

Stakeholders in the sickness certification process

Many stakeholders may be involved in the sickness absence and rehabilitation process of a person on sick leave. In this thesis, the focus is on the main stakeholders, as described below.

The *patient* is the main stakeholder, being the person on sick leave. The main responsibility for the patient is to take part in and contribute to the planning and execution of the measures considered beneficial for his/her recovery and return to work.

The *physician* is, in short, responsible for assessment of the patient's health condition and work capacity, providing proper treatment, and issuing the sickness certificate. The role of the physician has been described in previous sections of this chapter. Other healthcare professionals such as psychologists, occupational therapists and physiotherapists are often involved in the assessment, treatment and rehabilitation of the patient. Since 2020, Swedish healthcare is also obligated by law to provide a function for rehabilitation coordination (82). Rehabilitation coordinators are responsible for supporting the patient in the sick leave process, coordination of internal actors and collaboration with external stakeholders (such as the employer). Rehabilitation coordinators have been gradually introduced across the country. In 2017, the year of data collection for study II and one-two years before studies III and IV were performed, there were large differences in access to rehabilitation coordinators between regions and between different types of clinics (25).

The *employer* is responsible by law to provide a safe working environment and to work proactively to avoid sickness absence (83). The employer is also required to make necessary adjustments at the workplace to facilitate a sick-listed employee's return to work. If the sick leave is expected to exceed 60 days, the employer must make a plan for rehabilitation within 30 days. The plan should, to the extent possible, be made in joint consultation with the employee, and should be followed up and revised when necessary. Due to secrecy laws (84), employers are not entitled to know the employee's diagnosis. But the employer can take part of the rest of the sickness certificate, including information about work capacity. Such descriptions of what the employee can and cannot do at the workplace can guide their decisions about work adjustments. However, these descriptions about work

capacity can be sparse (85). Companies and other work organizations vary in size, trade, etc. and their prerequisites for fulfilling their responsibilities regarding prevention and rehabilitation may be limited. External resources such as the occupational health services (OHS) can be used (83). The OHS is not a state agency but consist of over hundred separate firms with verified expertise in working environment and rehabilitation. About 65% of the working population have access to OHS through their employer (86). For unemployed persons, the unemployment office is responsible for cooperating with other stakeholders and providing appropriate vocational rehabilitation measures.

The *SSIA* decides about and organizes payments of benefits. They can also, if needed, coordinate the interventions needed for a person to return to work. If they find that a joint meeting with several stakeholders – in general patient, employer, healthcare and *SSIA* – is necessary, they can summon to a stakeholder meeting (in Swedish: *avstämningsmöte*) (87).

Communication between stakeholders

Improved communication and collaboration between stakeholders have been lifted as important for a good sickness absence and return to work process (88-90). But stakeholders generally work in different systems with disparate resources, methods, goals and perspectives which can hamper communication and collaboration (21, 91, 92). Physicians have also expressed that collaboration with other stakeholders is valuable, but difficult to achieve due to lack of time and channels for communication and, in relation to the employer, a risk of breaching confidentiality (16, 93).

There are brief interventions to support physician-patient communication about health, e.g. *AUDIT* to screen for alcohol overuse (94) and *MADRS-S* to assess and follow depression severity (95), but none that deal with work-related issues. Previous research has examined information exchange between healthcare professionals in the sickness certification process (96). Other research has focused on communication between employee and employer, for example through meetings arranged and supported by healthcare staff (97, 98) or OHS and/or workplace (99, 100). Yet other studies have described self-led tools to support cancer patients to reflect upon and discuss their work-related needs with various stakeholders (e.g., employer, physician, insurance adjustor, union) (101-103). None of these approaches were as brief and simple as would be ideal for the management

of CMD patients in primary healthcare, and none targeted all three main stakeholders (patient, physician and manager).

Agency as a theoretical departure

Agency is one of several concepts that focus on the individual's own capacity to manage his or her own life. Related concepts are for example empowerment (104) and self-efficacy (105). In this thesis, agency was chosen as an appropriate theoretical departure since it combines structural and individual perspectives in the understanding of a person's "room for manoeuvre", i.e., the ability to navigate and act as he/she wants in a given situation (106, 107). Agency theory states that all social action takes place in, and is shaped by, the social context. The individual is simultaneously situated within multiple different contexts. Each context has an order, a structure. The structures are found at different levels such as gender and social class, insurance regulations and organization of healthcare, and workplace culture and health condition. These structures shape the individual's thoughts and actions in different ways. At the same time, the individual has the capacity for analytical thinking and can choose to act contrary to prevailing norms; the individual has an internal capacity for agency. The relationship between agency and structure is reciprocal: agency guarantees that actions are not fully determined by structures but agency is never fully free from the impact of structures.

By examining sickness absence patterns in two separately located factories in Finland, Virtanen and colleagues (2000, 2010) concluded that socioeconomic structures explained sickness absence behavior better than health outcomes or workplace factors (108, 109). The lifestyle patterns and attitudes associated with the local society influenced sick leave practice in the patients, and probably also in the physicians. In another study, the same authors showed that other structures, such as employment form, also had an impact on sickness absence; fixed-term employees were sickness absent to a lesser degree than those with permanent employment (110).

On an individual level, agency can be negatively affected by symptoms of CMD, such as fatigue, worries and difficulties in making decisions. Here, the physician has an important role in supporting the patient by providing treatment, if needed, and relevant information to calm fears and help the patient regain a sense of control (76).

RATIONALE

Given the major societal costs and challenges related to sickness absence due to CMD, along with individual suffering and employers' concerns, there is an urgent need to look more closely at physicians' practices in the sickness certification process of patients with CMD. First, there is a need to fill the knowledge gap regarding how physicians assess work capacity. Physicians find it problematic and the quality of their assessments has been questioned. As the assessment is the basis for patients' entitlement to benefits, a better understanding of the elements of the assessment is important to guide the development of interventions to aid physicians in this complex task. Second, to assess work capacity, knowledge of working conditions is needed. What are the physicians' possibilities to assess these conditions? Findings from interview studies suggest that contacts between physicians and employers are rare, but there are no studies in large populations of physicians. A better knowledge of their current practices and what factors are associated with such contacts is essential to support and strengthen stakeholder collaboration in physicians' work with sickness certification. Finally, there is a need for an improved management of persons that become sick-listed with CMD, to reduce unnecessary time off work and facilitate sustainable work participation. Interventions that include the workplace seem to be beneficial for promoting return to work, but more research is needed. Early communication between the physician, the patient, and the employer could support the physician's assessment of the patient as well as the employer's efforts to adjust the workplace. There are currently no brief and simple methods available to enable such communication within the primary healthcare setting.

AIM

The first aim of this thesis was to examine physicians' sickness certification practices from two perspectives: the assessment of work capacity (I) and contacts with patients' employers (II). A second aim was to develop and evaluate a tool with the purpose to facilitate such assessments and contacts in the sick leave process of primary healthcare patients with common mental disorders (III, IV).

Specific aims:

Study I

To synthesize existing qualitative evidence to provide a clearer description of the assessment of work capacity as practiced by physicians.

Study II

To explore general practitioners' (GP) contacts with sick-listed patients' employers and possible associations of such contacts with GP characteristics and organizational factors at the primary healthcare unit.

Study III

To describe the development of a communication facilitator, the Capacity Note, for the sick leave process of patients with common mental disorders in primary healthcare, and explore users' perceptions of it.

Study IV

To evaluate if the use of the Capacity Note – a brief intervention promoting early and systematic communication between general practitioners, patients and employers – had an impact on length of sick leave in patients with common mental disorders in primary healthcare.

MATERIAL AND METHODS

This thesis is based on studies examining sickness certification from several perspectives: physicians' assessment of work capacity, their communication with sick-listed patient's employers and if and how communication between stakeholders can be improved.

Study I was a literature review which synthesized findings from qualitative studies examining how physicians assess work capacity. Study II was a quantitative study based on questionnaire data. Study III was a qualitative study based on interview data. Study IV was a quantitative study based on register data. An overview of the studies is presented in Table 2.

Table 2. Overview of studies I-IV.

	Study I	Study II	Study III	Study IV
Design	Systematic review	Cross-sectional	Qualitative	Pragmatic trial
Study population	Physicians	Swedish general practitioners (GPs) handling sickness certification at least once a year (n=4228)	Random sample of GPs, patients, and managers (n=13) who had participated in study IV and used a communication facilitator	Patients on sick leave due to common mental disorders (n=56)
Data	Qualitative studies of physicians' own descriptions of how they assess work capacity (n=12)	Questionnaire data	Individual interviews	Register data
Year of data collection	2016	2017	2019	2018-2019
Analyses	Thematic synthesis	Logistic regression	Qualitative content analysis	Kaplan-Meier survival analysis, Chi-squared test, Mann-Whitney U test
Outcomes	Synthesized description of physicians' clinical practice when assessing work capacity	GPs' self-reported contacts with employers and association with physician-related and organizational factors	Users' perceptions of the communication facilitator	Length of sick leave

Study I

Study I was a systematic review, aiming to synthesize existing qualitative research on physicians' clinical practices when assessing work capacity as part of the sickness certification consultation. It sought to describe physicians' daily practices, as described by themselves, and not standardized methods or instruments. The study was carried out in accordance with ENTREQ (ENhancing Transparency in REporting of the synthesis of Qualitative research), a reporting guideline for the synthesis of qualitative research (111).

Search process and quality assessment

A systematic literature search was performed to find qualitative studies which i) addressed physicians' daily work with sickness certification, ii) presented substantial results about the assessment of work capacity from the physicians' perspective, and iii) used a qualitative research method. Our focus was to capture physicians' own descriptions of their understanding and handling of the work capacity assessment in their daily work with sickness certification. Studies which investigated more complex assessments, such as permanent disability claims, and/or the use of established methods or instruments were excluded.

Research on sickness certification has increased steadily during the last decades but it is still relatively scarce. Studies involving physicians are even more uncommon. In addition, sickness certification can be researched from a variety of perspectives/disciplines, such as medicine, psychology, sociology, economics and legal science. With increasing interest and recognition of sickness certification research, indexation of such studies has evolved and improved, but precision has been lacking. For example, the MeSH-term Return to Work was not introduced until 2013. Searching for qualitative research studies is also a challenge (112, 113). Therefore, our approach was to perform a wide search. This would result in many irrelevant hits, which would have to be filtered out manually, but was considered a superior approach to a narrower search with the risk of missing relevant studies.

In collaboration with a librarian, 30 search terms related to work capacity, assessment, and sick leave (as a proxy for work capacity) were chosen. In March 2016, the search terms were entered into seven electronic databases covering the main scientific disciplines of sickness absence research: PubMed – medicine; CINAHL – nursing, allied health, complementary medicine; AMED – allied health, complementary medicine; PsycInfo – psychology, psychiatry, sociology; Sociological abstracts – social and behavioural sciences; Scopus – citation database; Web of Science - citation database. Applied limits were: all years until

April 2016, in English, peer-reviewed. An updated search was made in August 2019 with the same search strategy. Reference lists of included articles were also screened manually.

After duplicates were removed, records were screened based on title and/or abstract by the first author. The remaining records were read in full-text to assess relevancy and richness of data. Articles considered relevant for the aim and rich enough to answer the research question were assessed regarding quality. The quality assessment was performed by two senior co-authors, based on the CASP (Critical Appraisal Skills Programme) Qualitative Studies Checklist (114).

Analysis

A descriptive analysis was made of all included studies to identify authors, country of origin, year of publication, aim, study design, year of data collection, method for analysis, informants and sampling method. Then, the results of the included studies were analysed using thematic synthesis (115, 116). This method includes reading and rereading of included articles, line-by-line coding of findings in each study, comparing the codes across all studies and organizing related codes into themes on different hierarchical levels. Our main research question was: What do physicians do when they assess work capacity and how do they do it? More specific research questions were for example: What questions do they ask? and What resources do they use? The line-by-line coding was done in the results section of the included articles. Only data relating to our research question was coded. Codes were created inductively and could be related or free. In each new study analysed, some codes were new and some were existing ones from previously analysed studies. All codes were then compared and related codes were grouped into subcategories. Related subcategories were grouped into categories. This hierarchical structure was revised several times. Finally, two descriptive themes were formulated. The first author read and analysed all articles while the co-authors each read and analysed a selection of the articles. The findings were compared and discussed among the co-authors throughout the analysis process.

Study II

Study II was a cross-sectional study based on questionnaire data. The aim was to explore general practitioner's contacts with sick-listed patient's employers and factors associated with such contacts.

Data and participants

The questionnaire

The data analysed in this study was obtained from a comprehensive questionnaire sent to most physicians living and working in Sweden in 2017 (N=34,585). Physicians working in clinics that seldom or never handled sickness certification of patients, such as laboratory clinics, paediatrics and geriatrics, were not included. The project was led by professor Alexanderson at the Division of Insurance Medicine at the medical university Karolinska Institutet in Stockholm. Information about eligible participants was obtained from the Healthcare Address Register administered by QuintilesIMS. The data collection was administrated by Statistics Sweden who sent the questionnaire to participants' home addresses with up to four reminders to non-responders. Answers could be provided electronically or on paper. Statistics Sweden also added register data about participants' sex, age, geographical area, year of medical degree, year of becoming a licensed physician, and type of residency, and conducted drop-out analyses. After data management, the data file was anonymized and sent to the responsible researcher at Karolinska Institutet.

This was the fourth time this comprehensive questionnaire was administrated in this way, the previous were sent out in 2004, 2008, and 2012. It included different types of questions about physician's work with sickness certification of patients. The 2017 questionnaire was developed based on the previous questionnaires in the project, other studies, literature reviews, and discussions with other researchers and clinicians and a comprehensive reference group with representatives from a wide range of stakeholders (25). Through all four surveys, the basic questions remained largely the same, allowing for comparison of results between years to capture possible changes over time. To try to capture effects of interventions in the field, new questions were at times added. Suggestions from different stakeholders regarding additional questions, as well as the need to limit the number of questions, also guided changes in the questionnaire. In the 2017 version, 133 questions were included and it took about 30 minutes to complete.

Dependent variables

We used answers to the following three questions as outcomes:

- How often in your clinical work do you/your healthcare team participate in stakeholder meetings regarding sick-listed patients?
- How often in your clinical work do you/your healthcare team have contacts with employers in other ways than through stakeholder meetings?
- How satisfied are you with your contacts with patients' employers?

The answers were dichotomized as: Participate in stakeholder meetings regularly (>10 times a week/6-10 times a week/1-5 times a week/about once a month) vs Not (a few times a year/never or almost never); Have other contacts with employers regularly (>10 times a week/6-10 times a week/1-5 times a week/about once a month) vs Not (a few times a year/never or almost never); Satisfied (very/fairly) vs Not (somewhat/not at all). The questions had remained the same since 2008.

Independent variables

Answers to 20 questions were used as independent variables. Some were classified as being related to the GP. This set of variables included demographics (e.g., sex), attitudes (e.g., how one values employer contacts) and behaviour (e.g., collaboration with other stakeholders). Another set of variables were classified as being related to the organization, i.e., the GP's workplace. These concerned for example having support from the management in sickness certification matters and having access to a rehabilitation coordinator. The question about access to rehabilitation coordinator was new in the 2017 questionnaire, as this was a new intervention. All answers were dichotomized. A full record of the included variables and the dichotomization can be found in paper II.

Participants

Of the 34,585 physicians invited to the answer the questionnaire, 18,714 responded (response rate: 54.1%). The response rate was somewhat higher among women and older participants. Our population consisted of those physicians who had been working clinically for the last 12 months, had sickness certification consultations at least a few times per year and worked mainly in primary healthcare (hereafter referred to as general practitioners, GPs) ($n = 4514$). Those who stated that they worked mainly as locums (i.e., working < 4 weeks at each workplace), or had missing data on that question, were excluded ($n = 286$). Our final study population consisted of 4228 GPs.

Analysis

Descriptive analyses were performed to present frequencies for all variables. To explore associations between the variables, logistic regression models were calculated. First, an unadjusted model where all variables were tested individually. Then, a model where the two sets of variables (physician-related and organizational, respectively) were tested separately. Finally, a full model with all variables included.

Study III

Study III was a qualitative study with two aims. The first was to describe the development of a communication facilitator for the sickness certification process of patients with CMD – the Capacity Note. The second aim was to explore how the users perceived it.

Development of the Capacity Note

The theoretical departure for the intervention was agency, as described in chapter I. The idea was to make the patient more active in his/her sickness certification process, and at the same time provide the physician with more information about the patient's situation, to facilitate the assessment of work capacity and need of sick leave. This was to be achieved by facilitating communication between GP, patient, and the patient's employer, about the patient's work capacity limitations and work situation. The name – the Capacity Note – reflected the intention to achieve capacities rather than focusing on incapacities. Given the short consultation times in primary care, the intervention had to be brief, but at the same time comprehensive enough to add something to the conversation. The proposed format was a paper form, which the patient was responsible for transferring between the involved actors.

The content of the Capacity Note was based on the results of five qualitative studies exploring patients' and health professionals' descriptions of work capacity in patients with CMD (28, 29, 73, 117, 118), and the results from study I. In an inductive approach inspired by content analysis, data relevant to the purpose of the Capacity Note was identified, condensed into items, compared across the studies and grouped into content areas. A selection of items mirroring the findings were then formulated into questions about work situation, work capacity and corresponding work adjustments. Minor adjustments were made after a multi-

professional research seminar. At the seminar, it was discussed whether questions about psychosocial work factors such as conflicts or bullying should be included. A decision was made to not include them, as they might be too sensitive to discuss at such an early stage of the sick leave as the first visit to the physician. The Capacity Note was meant to stimulate the conversation, not rule it, meaning that if such a topic come up in the discussion it was not a problem; on the contrary, it meant that the purpose of facilitating an individual assessment of each patient had been achieved. The six studies and their contributions are presented in paper III.

Qualitative evaluation of the Capacity Note

In the qualitative evaluation of the Capacity Note we sought to explore how the users (GPs, patients and employers) had used and perceived it. A qualitative study design was chosen, with individual interviews as the means for data collection.

Participants

Participants were recruited among individuals that had taken part in a pragmatic trial in primary healthcare where the Capacity Note was tested and evaluated regarding effect on sickness absence (study IV). In the pragmatic trial, a total of 28 patients and 14 GPs had used the Capacity Note, and, as far as we know, 12 employers. Inclusion criteria for the present study were: for patients, having used the Capacity Note with their GP and agreed to be contacted about the present study; for GPs, having used the Capacity Note with at least one patient; for managers, having used the Capacity Note with at least one employee and the employee must have agreed to their participation. The use of the Capacity Note had to have taken place within the last 9 months.

Fifteen patients filled the inclusion criteria. They were contacted in random order via telephone by a research assistant (myself) and if they agreed to participate, they received written information and a consent form to their postal address. Eight agreed to participate and dates were set for the interviews. Reasons for not participating were most commonly lack of energy or lack of time, while reasons for participating was in general a wish to advance the research knowledge on the topic. Ten GPs filled the inclusion criteria; nine were contacted via their work email by a research assistant (myself), for one we could not find the correct email address. Two GPs declined participation due to lack of time, five did not respond, and two agreed to participate. Of the 15 patients that filled the inclusion criteria, four had agreed to let their manager participate. These managers were contacted at their work (via email or telephone) by a research assistant (myself). All managers agreed to participate but one fell ill at the time of the interview and therefore three

managers participated. The characteristics of the participants are presented below in table 3.

Table 3. Characteristics of participants in study III.

Characteristics	Patients n=8	GPs n=2	Managers n=3
Sex			
Female	7	0	3
Male	1	2	0
Age			
Range (mean)	27-58 (44)	44 (44)	38-68 (54)
Type of occupation			
Skilled	3		
Unskilled	5		
Years of experience as GP/manager			
Range (median)		7-10	2-40 (2)
Number of employees			
Range (mean)			10-74 (36)
Months since used Capacity Note			
Range (mean)	1-9 (4)	1-7 (4)	4-7 (5)

Data collection

Thirteen individual interviews were conducted by myself in June – Dec 2019 at a local research center, in a hotel conference room, or at the participant’s workplace (whichever they preferred). A semi-structured interview guide was used; topics and examples of questions are presented in Figure 1. The interviews lasted 18-58 min (mean 31 min). All interviews were audio-recorded and then transcribed verbatim by a professional transcriber.

Analysis

As the participants had only used the Capacity Note once or a few times, we did not expect to reveal any deeper understandings or experiences, but our aim was to describe their “first impressions” of the Capacity Note. For this aim, qualitative content analysis was considered a suitable method for analysis. Myself and a co-author read all interviews separately, three at a time, first to get an overview, then line-by-line to identify meaning units and set preliminary codes. After each round of three, we compared our findings. After all findings had been discussed, we jointly coded all meaning units, grouped related codes into subcategories and grouped related subcategories into categories. This hierarchical structure was

rearranged several times until no new subcategories or categories were identified. After presenting these preliminary findings at a research seminar with external researchers, a further revision was made, resulting in the final results.

<p>OVERALL IMPRESSION What is your overall impression of the Capacity Note? How did you think it was to use it?</p> <p>CONTENT How relevant was the content in part 1/ part 2 / part 3? Did you miss anything?</p> <p>USE What was it like to use the Capacity Note together with your doctor/manager /patient?</p> <p>COMMUNICATION How did the Capacity Note affect the communication with your doctor/manager /patient?</p> <p>BENEFITS How did the Capacity Note affect your way of handling the situation? How did the Capacity Note affect your/your patient's/your employee's possibilities to return to work?</p>
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Figure 1. Topics and examples of questions in the interview guide.

Study IV

Study IV was designed as a pragmatic trial. The aim was to test whether the use of a brief intervention (the Capacity Note) with the purpose to facilitate communication between GP, patient and the patient's manager could affect length of sick leave in patients with CMD.

Setting and procedure

The study took place at eight primary healthcare centers (PHCC) in the region Västra Götaland, during March 2018 – Sept 2019, see Table 4. At the time, there were several ongoing research projects in primary healthcare in the region and we were assigned to one specific area, which included one city and surrounding rural

towns. There were 28 public and private PHCCs in this area. Four of the PHCCs were already involved in other research projects and six were considered too remote. The head of the local Department of research, education, development and innovation in primary healthcare, and a GP active in both research and clinical work in the area, contacted the remaining 18 PHCCs with information about the study. Five PHCCs declined, three did not respond. A member of the research team visited the ten PHCCs that showed an interest in the study and presented the study to the manager and the physicians. These meetings generally lasted 30-45 minutes. All ten PHCCs chose to participate but it turned out that two could not due to a shortage of staff during the planned study period. At the remaining eight PHCC, all physicians handling sickness certification at the PHCC were randomized to being intervention or control physician. The physicians were responsible for identifying eligible patients. Randomization at physician level was chosen based on the experiences of another primary healthcare research project (119) which was successful in recruiting patients. Randomization at physician level, as opposed to PHCC level, also minimizes potential sociodemographic differences between participants in different catchment areas. The results of the randomization were revealed at study start, when a short meeting (5-20 min) was held with the physicians to repeat the study procedures and distribute the material (e.g., the Capacity Note). The length of both information meetings was based on what time the PHCC manager could offer, for example if it was possible to make time for a meeting specifically for the research project or we could only have a short time slot in their ordinary meetings.

Based on the primary healthcare study mentioned above (119), we also chose short study periods, initially two weeks at each PHCC, to keep up motivation among the staff. Feedback from the PHCCs was that the study was not a burden, and we were welcome to stay longer at some PHCCs. Several PHCC also agreed to repeated study periods. A research assistant was present at the PHCC on a daily basis to administer the recruited patients, and to remind and support the physicians. Four persons alternated in taking the role as research assistant: a research nurse, two rehabilitation coordinators, and myself. The PHCCs were reimbursed for every included patient (intervention or control).

Despite these efforts to facilitate recruitment of patients, recruitment was very slow, and discussions about potential remedies started early on and continued throughout the study. As a result, we adjusted some parts of the design: the possibility to recruit and use the intervention via telephone was introduced, we prolonged the study periods, we let the study run continuously at two PHCCs (one where one of the research assistants worked, and one where two physicians expressed a particular interest in the study (one intervention and one control)). Other parts of the study design, such as the time limit of 4 months and the recruitment of patients via physicians, were not changed even though it would

probably have led to a higher inclusion rate. These parts were considered fundamental to the design and theoretical rationale of the study and necessary to be able to answer the research questions.

Table 4. Characteristics of participating PHCCs and their contribution to the study.

PHCC	City/rural area	Public/Private	Number of participating GPs	Number of study periods	Number of weeks in the study	Number of recruited patients
1	City	Public	7-10	2	4	6
2	Rural	Public	4-7	3	16	7
3	Rural	Public	6-7	2	6	11
4	City	Private	7-9	2	5	9
5	Rural	Public	5-8	3	7	4
6	Rural	Public	9	1	4	4
7	Rural	Public	8	1	5	4
8	Rural	Public	2-8	2	18	13

The intervention

For a thorough description of the intervention, the Capacity Note, see study III. In the present study, intervention physicians used the Capacity Note with their patients in addition to usual care. Control physicians only had access to and filled in part I of the Capacity Note (work situation), in addition to usual care.

Participants and data

Inclusion criteria were: women and men, 18-64 years old, employed, who sought healthcare due to CMD and became part- or fulltime sick-listed or had been so for no longer than 4 months. To be eligible, patients were also required to have a current health status permitting decision-making about participation in the study. Persons with severe psychiatric disorders, substance abuse, or severe somatic diseases were excluded. Before study start, a sample size calculation was performed. With a significance level of $\alpha = 0.05$ and power 0.80, it was estimated that around 200 patients in each group was needed to detect at least a 15% difference between intervention and control group. The physicians identified 99 patients as eligible. Of these, 41 were not included in the study; reasons are

presented in Table 5. Two patients in the intervention group were lost to drop-out, leaving a study population of 56 individuals (28 in each group).

Table 5. Reasons for not participating in the study, with frequencies, among patients identified as eligible by a physician (intervention or control).

Reasons for not participating	Patients identified by intervention physician	Patients identified by control physician	Total
Declined to participate due to:			
Lack of energy	5	5	10
Hesitant to talk to employer	7	1	8
Hesitant to participate in study	2	2	4
Already have a plan for RTW	3	-	3
Gave no reason	8	2	10
Excluded due to:			
Not employed	3	2	5
Sick-listed for other reason than CMD	-	1	1
Total	28	13	41

Data on sex, age and occupation was gathered from the Capacity Note, to compare baseline characteristics between the groups and, if possible, to perform sub-group analyses. Sick leave data was retrieved from the Swedish Social Insurance Agency's database MiDAS (MicroData for Analysis of the Social insurance), where all sick leave days with sickness absence benefits (hereafter called reimbursed sick leave days) are registered. This data gives information about reimbursed sick leave, but cannot be used as a direct measure of return to work. When a registered sick leave period ends, the patient may have returned to work but may also be on other disability benefits, on parental leave, on continued sick leave without benefits (if they have been declined), or may have quit his/her job. However, as there are no other certain measures for return to work, MiDAS data is usually used as a proxy for return to work. The first 14 days of a sick leave episode are paid for by the employer, these days were not included in our analyses. We aimed for 18 months of follow-up but due to time restrictions we had to settle for 17 months.

Four different measures of sickness absence were analysed. Time to full RTW was measured by estimating the number of reimbursed sick leave days from inclusion in the study to first full RTW. Full RTW was defined as no new reimbursed sick leave days for at least four weeks. Number of sick leave episodes was measured

by estimating the number of separate sick leave episodes during follow-up. A new sick leave episode was defined as reimbursed sick leave days occurring after full RTW. Number of gross sick leave days at 6, 12 and 17 months of follow-up was measured by estimating the total number of reimbursed sick leave days in all sick leave episodes combined, up until these time points. RTW status at end of follow-up was based on whether the individual received sickness absence benefits or not at the last day of follow-up.

Analysis

A descriptive analysis of baseline characteristics, including sex, age and occupation, was made and group differences were analysed with the Chi-squared test or Fisher's exact test (when counts were less than five). Time until full RTW was calculated using Kaplan-Meier survival analysis, a method for calculating the probability of an event at a certain point of time. This way we could measure the fraction of individuals having returned to work at different time points during follow-up and the median number of days to full RTW, in the two groups separately. Group differences were tested with the log rank test. Group differences in number of sick leave episodes was analysed with the Chi-squared test. Group differences in number of sick leave days at 6, 12 and 17 months were analysed with the Mann-Whitney U test as this data was not normally distributed. Analyses were performed using Stata version 16 or IBM SPSS Statistics version 26.0.

Ethical considerations

In study I, an ethics approval was not needed.

Study II was approved by the Regional Ethical Review Board of Stockholm, Sweden. Participants received written information about the study and gave their informed consent by submitting their answers to the questionnaire.

Study III and IV were approved by the Regional Ethical Review Board of Gothenburg, Sweden. In these studies, participants received oral and written information about the study and gave written consent. They were also informed that it was possible to withdraw from the study at any time without presenting a reason, and that their participation or discontinuation would not affect their care. Ethical concerns that were discussed regarding study III and IV were related to the vulnerability of patients with CMD in general and such patients in need of sick leave in particular. Mental health is a sensitive topic and reluctance to disclose

mental health issues to one's employer has been reported (29, 120). Our study population were in the early stages of sick leave, which can be characterized by higher symptom severity and an uncertainty about the condition, prognosis, and expected return to work. In addition, the condition itself can add to feelings of worries, lack of confidence and motivation, lack of energy etc. To make sure that the patients were ready to participate, we let the physicians identify and recruit eligible patients.

RESULTS

Study I

From 2,683 unique citations, 12 studies were included in the synthesis. No study was excluded based on the quality assessment. One study from the updated search met the inclusion and quality criteria but was not included in the synthesis as the analysis was already completed. Eleven of the twelve studies were from Europe. Data collection was done in 2003-2011. Of the 228 participants, 59% were general practitioners, 35% insurance physicians and 6% miscellaneous. One study analysed written statements in 475 sickness certificates.

Two themes were identified as describing physicians' clinical practices when assessing work capacity in patients in need of sick leave: *Knowledge base and understanding* and *Skills and resources* (Table 6).

Table 6. Themes and corresponding categories describing physicians' clinical practice when assessing work capacity.

Theme	Category
Knowledge base and understanding	Understanding the condition and its effect
	Understanding the patient and her context
	Understanding the patient's workplace
Skills and resources	Medical competence but not enough
	Time – length of observations
	Tacit knowledge – beyond the obvious
	Trust – uncertainty and dual roles
	Reasoning – putting the pieces together

Knowledge base and understanding

Understanding the medical condition was considered the foundation of the assessment. This included establishing a diagnosis, investigating the effects of the diagnosis on functioning, and understanding how the functional limitations affected the ability to function at work and in private life. Verifying the diagnosis was not central for the assessment but it was a prerequisite for eligibility.

Therefore, subjective complaints, where “objective” findings were lacking, were considered more difficult to assess. In physical complaints, the assessment focused more on physical functional limitations (which were considered the easiest to assess). In contrast, for mental complaints, the inquiry was more about social aspects of private and working life.

A good understanding of the patient was essential for the assessment. This included aspects directly related to the person such as medical history, work history, previous sick leave and the patient’s perceptions of his/her work capacity and return to work. In addition, knowledge about contextual factors such as family situation and presence or absence of social support was considered vital for the assessment. Medical and non-medical factors were seen as interacting and inseparable. This, together with the uniqueness of each patient, complicated the assessment. In addition, physicians were unsure of which non-medical aspects could actually be included in the assessment.

Knowledge about the workplace was described as necessary to assess work capacity, but at the same time difficult to acquire in the absence of workplace visits or contacts with employers. The patient was the main source of information regarding the workplace. Questions about work tasks and work demands, the social situation at work and the employer’s attitudes and actions were mentioned, but there were also reports about a very limited inquiry into the patient’s work situation.

Skills and resources

Medical competence was described as essential to understand and deal with the medical condition. However, it was not enough for the assessment of work capacity. The uniqueness of every patient, and the many different dimensions interacting in the “creation” of work capacity, made the use of other skills and resources necessary. Time was considered an important resource, both in the consultation and to follow patients over time, but lack of time in daily work meant that assessments were often hampered. The complexity and subjectivity of many cases was handled by using trust – trusting the patient’s story. For some, this was seen as problematic in relation to their gate-keeping role. Also, the assessment was not completely conscious; tacit knowledge or intuition was used to collect and assess information (e.g., to tell if something was not right). Finally, the physicians acknowledged that there was not one true measurement to arrive at. Instead, through a process of reasoning they put all available information together, including possible consequences of the decision they were about to make, and arrived at a probable estimation of the patient’s work capacity.

Study II

In the study population, 56.5% were women, 60.2% were specialists, and 41.5% had worked at their current workplace for at least five years, see Table 7. A total of 39.4% of GPs reported regularly participating in stakeholder meetings, having other contacts with employers, or both. Finding stakeholder meetings and contacts with employers valuable for the quality of one's work with sickness certification was reported by 94.6% and 86.4% of GPs, respectively.

Table 7. Characteristics of study participants (n=4228).

Variable	n (%)
<i>Factors related to the GP</i>	
Woman	2390 (56.5)
24-39 years old	1601 (37.9)
40-54 years old	1448 (34.2)
55-68 years old	1179 (27.9)
Certified specialist	2542 (60.2)
Worked \geq 5 years at current workplace	1748 (41.5)
Experience own insurance medical competence as insufficient regularly*	2229 (53.6)
Find SC problematic	3211 (77.2)
Find contacts with employers valuable	3520 (86.4)
Find stakeholder meetings valuable	3854 (94.6)
Agree that one's SC practices are important for the patient	3990 (96.1)
Agree that focus on return to work is valuable in one's work with SC	3955 (95.7)
Consult other physicians regularly* in SC cases	1937 (46.3)
Cooperate with rehabilitation coordinator regularly*	1914 (46.0)
Cooperate with medical social worker/psychologist regularly* in SC cases	3147 (75.4)
Cooperate with physio- or occupational therapist regularly* in SC cases	3123 (75.1)
Refer patients to occupational health services regularly*	2193 (52.7)
<i>Factors related to the GP's workplace</i>	
Have joint SC routines/policy at the primary healthcare clinic	2198 (52.2)
Benefit from the SC routines/policy (among those who have such)	1559 (75.9)
Have lack of time for patient-related SC tasks (such as contacts with other stakeholders) at least once a week	3544 (85.3)
Have access to rehabilitation coordinator	2791 (66.2)
Have support from management in SC matters	3295 (79.3)
Have enough resources to do a good job with SC	1546 (37.3)

SC: sickness certification. * At least once a month.

Participation in stakeholder meetings

Regular participation in stakeholder meetings was reported by 34.8% of the GPs. Collaborating regularly with a rehabilitation coordinator was the factor most strongly associated with participating in stakeholder meetings (OR 2.72, 95% CI 2.24-3.31). Regular collaboration with other healthcare professionals at the clinic, such as physiotherapist, psychologist or other physicians, also increased the odds but not to the same extent. Specialists were twice as likely to participate regularly in stakeholder meetings, as were GPs who found such meetings valuable. Having lack of time for patient-related SC tasks, such as contacts with other stakeholders, also increased the odds of participating in stakeholder meetings (OR 1.6, 95% CI 1.26-2.03).

Other contacts with employers

Having other contacts with employers than stakeholder meetings was reported by 15.1%. Regular collaboration with rehabilitation coordinator showed the strongest association with OR 3.85 (95% CI 2.85-5.21). GPs who, in SC cases, regularly consulted other physicians, cooperated with physiotherapists or occupational therapists, or referred to occupational health services also had higher odds of having other contacts with employers. Having a joint SC policy at the clinic was also positively associated with such employer contacts.

Satisfaction with employer contacts

In the question about satisfaction with one's employer contacts, 53.2% (n=2250) of the GPs stated that they had contacts with sick-listed patients' employers. Among them, 65.8% reported that they were satisfied with the contacts. GPs who agreed that their SC practices are important for the patient had the highest OR for being satisfied (OR 3.64, 95% CI 2.05-6.47). The odds were also higher among GPs who stated that they had enough resources for SC matters. GPs who found sickness certification problematic were less likely to be satisfied with their employer contacts than those who did not.

Study III

The Capacity Note

The Capacity Note was designed as a paper form with three sections: 1) Information about you and your work, 2) How does your health affect your capacity to work? and 3) How can your work situation be adapted? Each part contained questions and statements which were answered by ticking boxes and sometimes by adding additional information for clarification. The full Capacity Note is presented in the Appendix. The intended use was as follows: During the consultation, the patient, and the GP discuss and fill in part 1 and 2. The patient then contacts his/her employer to jointly go through part 2 and discuss and fill in part 3. The completed Capacity Note is then sent back to the GP by the patient, and can be used for follow-up.

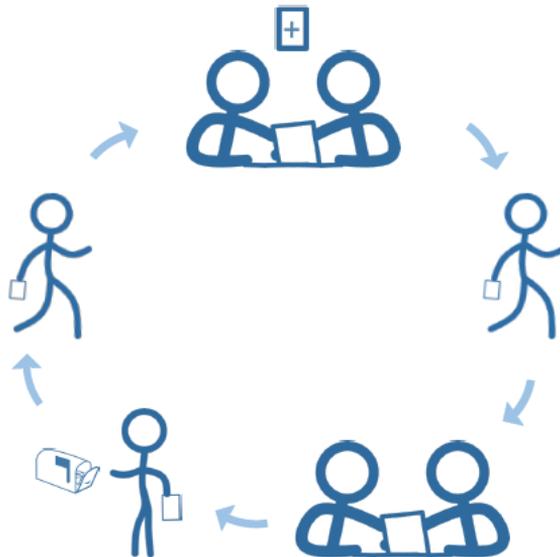


Figure 2. A schematic presentation of the intended use of the Capacity Note.

The users' perceptions of the Capacity Note

The analysis of the user's perceptions of the Capacity Note resulted in four categories: *Content and format*, *Understanding, legitimacy and action*, *Openness and timing*, and *Time and efficiency* (Table 8).

Table 8. Categories and subcategories representing participants perceptions of the Capacity Note.

Category	Subcategory
Content and format	Providing structure and content to the conversation Finding the right format Putting words to the patient's situation
Understanding, legitimacy and action	Contributing to one's own and others' understanding Understanding promotes action Legitimacy before oneself and others
Openness and timing	The role of openness and honesty Uncertainty about the right timing
Time and efficiency	Time is essential for good communication and understanding Striving to be efficient

The participants found that the Capacity Note could provide content and structure to the conversation about health and work in persons with CMD, especially for managers and GPs with less experience of sickness certification of such individuals. It could serve as a framework for the conversation and could also lead to an expansion of the discussion. The content was considered relevant for the purpose. Some further content was suggested, including aspects of private life affected by and affecting health and work capacity, more details concerning the workplace, and additional resources such as occupational health services. While the patients appreciated seeing things "black on white", the GPs argued that an electronic form was a better alternative than a paper form. Using the Capacity Note in a telephone consultation was not considered a good option.

The specific wordings in the Capacity Note could help put words to the patient's situation. For GPs, this meant getting precise descriptions of the patient's cognitive functional limitations for the sickness certificate. For patients, it provided an opportunity to clearly communicate what they were experiencing, which was felt as a relief. A related finding was that the Capacity Note could contribute to a deeper understanding of the patients' situation. When considering each statement, the patients' comprehension of their situation was improved. This was considered the main benefit of the Capacity Note. The patients also felt that the GP understood them better. Whether it actually led to a deeper understanding for the GP was dependent on how much had been discussed at previous consultations. The patients' increased understanding of their situation could lead to an openness towards the GP's information and suggested actions, and could also trigger own actions. In addition, the patients described feelings of legitimacy. The clear descriptions of their situation made them aware that it was normal and real. They also expressed that they (finally) got the GPs attention. The Capacity Note was also considered a potential support for patients when reaching out to and discussing with the manager (as it was a request from the GP).

Openness and honesty were considered important for the use of the Capacity Note. But the views differed in regards to whether this was actually possible. On the one hand, patients' wishes and expectations regarding return to work could influence their answers. On the other hand, understanding the legitimacy of their claims could make them more honest about their situation. In general, the patients found the Capacity Note helpful to more fully and honestly explain their situation to the GP. However, several of them considered it more difficult to be as honest with their managers. This was dependent on the manager's (perceived) attitude and whether the patient was comfortable with revealing his/her "shortcomings". Another area of concern was that of using the Capacity Note at the right time in the sick leave process. If used too early, the patient might not be ready to discuss return to work, and the medical aspects, which were considered crucial in the initial phase, might receive less attention. On the other hand, if used later on, when the patient had perhaps already return to work partially, it might not be as useful. In general, an early use was considered best, as a means to map the situation and possibly promote return to work.

Another aspect of time was the lack of time many patients encountered in the discussion with the GP and/or manager. The lack of time hampered the use of the Capacity Note and was described as a profound obstacle to a good discussion. It caused patients to give hasty answers and there were several accounts of managers that had not taken the time to have a proper discussion about the Capacity Note, or even use it at all. Suggestions were made that the patient could fill in the Capacity Note before the GP consultation, alone or with another healthcare professional, but

it was also acknowledged that this might lead to a less open dialogue with the GP. The GPs found the Capacity Note rather time consuming but when it led to an increased understanding of the situation (as described above) it was considered worth the time.

Study IV

There were no significant differences between intervention and control group regarding baseline characteristics. Most participants were women (intervention 70.8%, control 76.9%), and a majority worked in unskilled occupations (intervention 57.1%, control 62.5%). In the intervention group, there were slightly more participants in the youngest age group (19-34 years).

Length of sick leave

We could not demonstrate any significant differences between control and intervention group in any of the four outcomes. Median time to full RTW was 102 and 90 days in intervention and control group, respectively. In both groups, about 70% of participants returned to work within 180 days. At the end of follow-up, 79.2% in the intervention group and 84.6% in the control group had returned fully to work. A majority of participants had only one sick leave episode during follow-up (79.2% and 76.9% in intervention and control group, respectively). No participant had more than two sick leave episodes. At 6 months follow-up, the median number of gross sick leave days was similar in the two groups (intervention 128.5 and control 122.5). At 12 months, the median number of days in the control group was almost the same (127.5) while in the intervention group it had increased to 146.5 (but still no statistically significant difference between the groups). At 17 months, the median number of days had not changed since the 12-month follow-up in any of the groups. Due to the small sample size, sub-group analyses were not possible.

DISCUSSION

The aim of this thesis was to examine physicians' sickness certification practices from two perspectives: the assessment of work capacity and contacts with patients' employers. A second aim was to develop and evaluate a brief communication facilitator for the sick leave process of patients with CMD.

The assessment of work capacity

In study I, the physicians described work capacity as something complex, dynamic and multi-faceted. To assess it, knowledge of the individual patient and his/her context, the health condition and the workplace was needed. The physicians' holistic perspective on work capacity is in line with biopsychosocial models of disability and work capacity, such as the International Classification of Functioning, Disability and Health (ICF) (23) and the Person-Environment-Occupation (PEO) model (24). These models emphasize the dynamic interactions between personal, environmental and occupational factors and, consequently, the dynamic nature of functioning and work capacity.

In contrast to this holistic view of work capacity was the finding that physicians emphasize different aspects depending on the diagnosis. When assessing physical complaints there was a focus on "objective" medical findings while for mental complaints the focus was more on social aspects. The social aspects were considered crucial for any assessment of work capacity, as they increase the understanding of the individual patient. In fact, they were considered more important than the diagnosis. Still, physical complaints were considered easier to assess, while mental complaints were described as hard to verify and associated with more complex problems. This points to a tension between the objective and the subjective. While both types of findings are considered important for the assessment, the subjective aspects are difficult to assess and verify, which complicates the assessment as a whole. The physicians were also uncertain which non-medical factors could be "formally" taken into account, which could be interpreted as a clash with the requirements of the sickness insurance system (121). This was seen in both Swedish studies and a Dutch study, which represent two distinctly different systems. In 2017, in a nationwide questionnaire study, 46% of Swedish physicians stated that the SSIA requests objective findings in cases where it is not possible (25). After a recent court decision, there is now an ongoing discussion whether they have the right to do so (122). This uncertainty creates additional tension in the physicians' work with these assessments.

To handle the subjectivity, some physicians used trust. From the patients' perspective, such trust contributes to a positive encounter with the physician (123, 124) and is important for their RTW process (76). However, other physicians in the review found that certifying solely based on the patient's story meant compromising with their gatekeeping role. The GPs' view of their role in sickness certification can range from acting solely on behalf of the patient (the patient's advocate) to acting fully on behalf of the system (gate-keeping of the resources of the society) (125, 126). Whichever position the GP chooses, there is an inherent conflict between the two roles, causing unease (16, 127). Subjectivity was also "handled" by using tacit knowledge or intuition, a finding which has been reported in other studies concerning work capacity assessments of patients with CMD and subjective health complaints (27, 118).

The results suggested that physicians' enquiry about the patient's workplace is limited, and the main source of information is the patient. This has been reported in other studies as well (6). Lack of time and methods were reported as barriers to evaluating the workplace in our study. Previous research also shows that physicians lack knowledge and training in insurance medicine and occupational health (6, 125, 128) which might further impede the assessment of the workplace. Having lack of time affected not only the assessment of the workplace but the assessment as a whole and has previously been reported as a barrier to good sickness certification practices (127).

To arrive at a decision, the physicians used reasoning. In this process, explicit, experience-based and tacit knowledge are consciously and unconsciously assessed and integrated to understand and handle the unique situation at hand (129). It was clear that work capacity cannot be measured; instead, the physician makes an assessment of what is reasonable in the given situation. Therefore, standardized assessments of work capacity may be impossible and also not desirable (130-132).

General practitioners' contacts with patient's employers

The results in study II showed that four out of ten GPs had some type of contact with sick-listed patients' employers, i.e., participation in stakeholder meetings and/or other contacts with employers. Given that previous research has found that contacts between GPs and employers are rare (7, 93), this was a surprisingly high proportion. A likely explanation is that our outcome question measured not only GPs direct contacts with employers but also those delegated to other healthcare professionals in the team. This suggests that GPs primarily have indirect contacts

with employers. This interpretation is also in line with the finding that for both types of contacts, regular collaboration with a rehabilitation coordinator was the factor with the strongest association. The rehabilitation coordinator function handles internal coordination as well as external contacts in sick leave cases, and they initiate stakeholder meetings. This could explain the strong associations with these two outcomes and suggest that the rehabilitation coordinator function is an important organizational support for GPs in their work with sickness certification. However, some questions remain unanswered. Since we do not know the direction of the associations, we do not know whether GPs who collaborate with rehabilitation coordinators are more likely to have (direct or indirect) contacts with employers, or if GPs who have contacts with employers are more prone to collaborate with rehabilitation coordinators. When comparing the frequency of employer contacts among all sickness certifying physicians in the 2017 questionnaire with previous versions from 2008 and 2012, when the function for rehabilitation coordination was not yet implemented, the figures have remained the same over the years; about 20% participate in stakeholder meetings and less than 10% have other contacts with employers (25). This suggests that the rehabilitation coordination function may not have increased the number of contacts, but rather relocated them. This data, however, concerned all physicians, not only GPs, and the figures might be different if looking only at GPs (unfortunately, such data was not available in the report). In 2017, when the study was performed, the rehabilitation coordinator function was only partially implemented across the country and there were large differences between different types of clinics. The largest proportion of physicians reporting having access to a rehabilitation coordinator was found among GPs (64%) (25), but the actual access might have been limited. Many rehabilitation coordinators serve several PHCCs and have other tasks as well, meaning that they can spend as little as one day per week at each PHCC (133). This not only makes them less available for discussions with the GP, but also makes it more difficult to build a trustful professional relationship with the GPs, which is important for their collaboration (133). Given that the rehabilitation coordinator function is now mandatory by law, further evaluations of its significance for GPs' contacts with employers, both in terms of frequency and quality, is needed. Especially since a vast majority of the GPs in our study reported that employer contacts are valuable for ensuring high quality in their work with sickness certification.

As many as 75% of GPs cooperated regularly with physiotherapist, occupational therapist, psychologist or medical social worker in sick leave cases. Nearly half of GPs cooperated with other physicians or rehabilitation coordinators. Such collaboration with other types of healthcare professionals was positively associated with both participating in stakeholder meetings and having other contacts with employers. This suggests that having a general collaborative

approach within the clinic also facilitates contacts with external stakeholders. This is in line with two previous studies on collaboration in the sickness certification process showing that collaboration is facilitated when it is encouraged and supported by the management (133, 134). These two studies also showed that organizational resources are important for collaboration, which supports our finding that having a joint routine/policy for sickness certification increased the odds of having other contacts (than stakeholder meetings) with employers.

Given previous research findings that lack of time is a barrier for collaboration (92, 134, 135), we expected lack of time to be negatively associated with having employer contacts. Instead, was associated with increased odds for participating in stakeholder meetings. A possible explanation is that GPs who experience a shortage of time in their work with sickness certification matters find such meetings time efficient (136). Another possible explanation is that participating in such meetings contribute to a shortage of time as they are time consuming.

GPs who reported having managerial support and enough resources for their work with sickness certification were more likely to be satisfied with their contacts with patient's employers than GPs who did not. Again, organizational resources were of importance for collaboration (133, 134). In contrast, we found a negative association between finding sickness certification problematic and being satisfied with one's employer contacts. Quite possibly, poor stakeholder collaboration, e.g., when employers are difficult to reach or have conflicting views, make sickness certification more problematic (2, 92).

Both GP characteristics and organizational factors were of importance for GPs having and being satisfied with employer contacts. These factors are often interrelated. Collaboration was defined as a physician characteristic, based on previous research suggesting that some GPs' hold negative attitudes towards collaboration and do not wish to take part in it (21). But the choice or ability to collaborate also depends on organizational resources such as accessibility of the rehabilitation coordinator and the level of support offered by the management, as discussed above. Consequently, both types of factors should be considered in interventions targeting physician-employer contacts.

Facilitating communication between stakeholders

In study III, a brief communication tool was developed to address GPs' need of knowledge about patients' workplaces to assess work capacity, and the lack of methods to retrieve such information during regular consultations in primary

healthcare. It also addressed the need to facilitate patients' active engagement in their sick leave process. The communication tool, the Capacity Note, was used by GPs, patients with CMD, and the patients' employers.

In the qualitative evaluation of the users' perceptions, an important finding was that the Capacity Note could increase the users', in particular the patient's, understanding of the patient's situation. The specific wordings helped put words to what the patients were experiencing. Instead of discussing symptoms, the Capacity Note helped the participants to conceptualize work capacity. For the patients, this led to feelings of legitimacy. These are important findings as patients with CMD, as well as physicians and employers, have expressed that the nature of CMD and its effect on work capacity can be difficult to describe and handle (76, 137-140). Patients with CMD have also expressed feelings of doubts about the legitimacy of their condition as well as being on sick leave because of it (76, 137). Such thoughts and experiences can create additional anxiety and self-doubt and therefore, receiving recognition can be equally important as receiving help to manage the condition (140). For the GPs, the conceptualization of work capacity could be a help when filling in the sickness certificate. Analyses of sickness certificates have shown that in many cases, clear descriptions of the patient's work capacity are missing (85), which could jeopardize the patient's eligibility to sickness absence benefits. The idea was to also give the employer a better understanding of the patient's work capacity limitations. However, none of the participants mentioned that the Capacity Note had contributed to this. This can probably be explained by work capacity limitations not being discussed by employees and employers, only the part about work adjustments. Therefore, we cannot draw any conclusions about this important dimension of the Capacity Note. We can only speculate that without such a knowledge base, the discussion about work adjustments will likely be more directed towards what adjustments the manager can offer, rather than what the employee needs. Such a limited discussion will reduce the usefulness of the Capacity Note, especially if the manager cannot offer any of the proposed work adjustments (141).

Openness and honesty were thought to be necessary to achieve good communication and understanding, both in general, and in relation to the Capacity Note. In line with previous research, the patients found it easy to be honest with their GP but they were hesitant to share the same information with their manager (29, 120, 124, 140). This hesitation is not unfounded as stigma or limited knowledge of CMD among employers might make them less supportive (140, 142, 143). It was also stated that the patient's agenda could influence his/her answers, and direct communication between employer and GP was suggested to overcome this. This, however, might not be possible due to confidentiality regulations (84). Altogether, this suggests that mutual trust between stakeholders is important for good

communication and understanding in the sick leave process. This is in line with the findings of study I that trust is necessary in the work capacity assessment, as well as reports about the importance of trust for positive encounters, collaboration and decision-making in the sick leave process (124, 133, 134, 144, 145).

The usefulness of the Capacity Note was also thought to be dependent on the amount of time invested; lack of time restricted the conversation. This supports previous findings that time is essential for communication and collaboration in the sick leave process (92, 124, 134, 145). Even though the GPs' and managers' lack of time was evident, joint stakeholder meetings were suggested as the best way to achieve a common understanding (136). Such meetings definitely require a lot of time (87, 145). An interview study with officials at the Swedish Social Insurance Agency showed that the physicians' lack of time was the biggest obstacle in achieving such meetings, which sometimes led to not inviting the physician at all (87). This points to a tension between what the GPs need and what they can get, as well as what other stakeholders need from the GP and what the GP can provide. Based on the results in study II, the rehabilitation coordinator function could be one way to address the GPs' time constraints, but it also "robs" the GPs of the opportunity to have direct communication with the other stakeholders. Also, using a mediator might not create the same sense of relief and understanding as the patients in our study experienced when using the Capacity Note with their GP. A key aspect of the Capacity Note was to strengthen the communication between GP and patient as the patient is their primary source of information (118).

The participants generally considered it best to use the Capacity Note early in the sick leave process, which was in line with the intended use. However, they also lifted the importance of having made the medical evaluation first, which is in line with our findings in study I that the medical assessment is the basis of the work capacity assessment. It was also considered important that the patient was (at least to some extent) ready to discuss return to work when using it. The tension between recovery and return to work, and the difficulties handling it, has been reported previously by both GPs (30) and patients with CMD (77) and suggests that decisions about the use of the Capacity Note should be taken for each case individually.

Effects on sickness absence

In study IV, the aim was to investigate if the use of the Capacity Note had an impact on length of sick leave. We could not demonstrate any significant differences between intervention and control group for any of the outcomes.

Despite our efforts to facilitate recruitment of patients, the sample was too small. To draw any conclusions about the effectiveness of the intervention, a larger study is needed.

Agency in the sick leave process

There is a long-standing tradition of care taking in healthcare, as reflected in terms such as care, nursing etc. In sickness certification, where not only medical, but also psychosocial, financial and juridical aspect are involved, such an approach can create problems. There is a risk that healthcare professionals take on problems that they cannot and should not solve, for example conflicts at the patient's workplace. Then, the patient's problems become medicalized and the patient risks becoming a passive bystander waiting for the assistance of healthcare, instead of being actively engaged in addressing problems that need to be solved to achieve health recovery and return to work. Qualitative studies among patients on sick leave have found that being on sick-leave can be passivating (124, 146) and lead to a feeling of lack of control (146). The participants stated that early interference and coordinated support from other actors (healthcare professionals, employer, social insurance officials) was important for return to work. In other studies, patients considered it important to be in charge of their own return to work process, to have an active role, and felt that this improved the process (124, 144, 147). Other patients, however, have stated that they want to discuss their sick leave with the physician but not be part of the decision-making process (148).

According to agency theory, strengthening a person's agency is to increase their capacity to navigate and act more independently in the situation they are in. Applied to the context of sickness certification, this would enable patients to make more informed decisions about their sick leave and return to work process. However, it should be noted that approaches to activate and empower patients within the context of sick leave and return to work have received criticism (149-151). When people are expected to take an active role in their care and well-being, failures can be regarded as their responsibility (130). For example, when return to work is not achieved, the patient could be described as "unmotivated" (152), when it is perhaps an unhealthy workplace that is the obstacle for return to work. If too much responsibility is placed on the individual and the impact of structures is disregarded, the individual can be left unsupported with a too heavy burden to handle (153). Also, all individuals do not have the same prerequisites for taking responsibility for their situation. Therefore, real agency is only achieved by providing individualized support based on the person's capacities and the specifics of the situation he/she is in.

The Capacity Note project was designed based on agency theory and targeted the patient's own engagement in the sick leave process. The aim was to promote agency within and with the help of collaboration. By discussing the situation with both the physician and employer, and transferring information between them, the patient was expected to become an active part of the process and contribute to collaboration and increased knowledge among all three actors. Also, with better knowledge about the workplace the physician can give more specific information and advice to the patient, which facilitates the own patient's decision-making. Agency cannot be measured, but the findings in study III indicated that the Capacity Note could strengthen the patients' agency. An important factor in this was the conceptualization and understanding of one's own work capacity which provided a basis for informed decision-making regarding one's situation.

The agency approach in this project primarily addressed the patients' agency. But we also learned some things about physicians' agency in the sickness certification process. The Capacity Note was designed based on the assumption that physicians are competent health professionals and it was meant to support their professional assessment rather than directing it. Along with the advance of evidence-based medicine, the use of guidelines and other efforts to standardize healthcare has increased substantially. In the context of sickness certification, physicians request tools and scientific evidence to support their assessments (154). At the same time, they find that general guidelines and tools might not be useful in the assessment of a unique individual and cannot replace their professional assessment (132, 155-157). Communication is one of physicians' primary tools (12). In the consultation, the physician and the patient interact and try to understand each other. The purpose of the Capacity Note was to strengthen this dialogue. We learned that the approach had the potential to improve communication, but it was difficult to implement due to the GPs' pressured working situation. The same was said about the work capacity assessment – lack of time hampered the physicians' possibilities to evaluate the patient's situation. This raises some concerns regarding physicians' agency in the sickness certification process. What opportunities do they have to act in line with what they believe is best practice? What opportunities do they have to identify what is best practice in a specific situation? What room is there for good communication and "the art of medicine" (158)? Recent research suggests that the physician has been disempowered in the sickness certification process, with a negative impact on their practices (121, 159). These are serious matters that must be evaluated further and properly addressed to ensure good quality in physician's work with sickness certification.

Methodological considerations

Study I

Strengths of the study are the first author's own experience of clinical work and sickness certification which facilitated identification and categorization of data, and the fact that peer-checking was applied during the analysis to reduce the risk of bias due to preconceptions. Another strength is that the quality assessment was performed by two experienced researchers.

When conducting a systematic review, one must balance the wish to include all relevant data, and the pragmatic need of keeping the amount of data manageable. Therefore, the process of searching for and selecting studies must be deliberate. For example, the search term "qualitative" had to be excluded from the search strategy as it yielded vast amounts of irrelevant records (112). Still, the search yielded almost 3000 records which had to be screened manually, and articles may have been excluded by mistake during this extensive process. Other possible limitations in the search process are that a broader variety of search terms referencing work capacity, such as work functioning and readiness to work, could have been included, since the terminology for work capacity is very diverse (160). Also, the manual search could have been extended by for example contacting experts in the field (160). Given this, we cannot be sure to have found all relevant studies.

Study II

The study has several strengths. All physicians living and working in Sweden were invited, the response rate was satisfactory, and our sample was large enough to detect group differences. The method for data collection had been developed and fine-tuned over the course of 15 years and in close collaboration with affected stakeholders to allow for a proper examination of physicians' sickness certification practices.

The most important limitation is that the outcome questions regarding participation in stakeholder meetings and other contacts with employers, measure not only the GP's participation and contacts but also those delegated to other healthcare professionals. Secondly, all data is self-reported, meaning that for example data about organizational factors reflect the GP's experience or awareness of such factors rather than the actual presence or absence of them. Thirdly, as in any questionnaire study, we do not know how the GPs interpreted the questions and

answer options. And finally, there is a risk of recall bias regarding the frequencies, but this is not expected to differ between the groups.

Our sample of GPs was large and represented all parts of Sweden. Whether the results are possible to apply to GPs outside of Sweden is dependent on the context (e.g., the role of the GP and the employer) and what specific findings one is looking at. Findings related to specific features of the Swedish system, such as collaboration with a rehabilitation coordinator, may be difficult to apply outside of Sweden. Other, more general findings, such as having support from the management, may be applicable in a wider range of settings.

Study III

A major strength of this study is that the Capacity Note was developed based on stakeholders' own reports of work capacity and CMD. Other strengths are that interviews were performed at a neutral place, the interview guide contained only open questions, and that the interviewer was familiar with both the intervention and the research context (161). Several steps were taken to ensure validity of results (162). During the analysis process, two authors analysed the data together and the findings were peer-reviewed, as means to overcome potential researcher bias. In the report, a detailed description of the analysis process was given, and the results were exemplified with participant quotations.

The most important limitation is the limited number of participating GPs and employers. This was a direct effect of the small study population in study IV from which our sample was recruited. In qualitative research, there is not one correct sample size; it is dependent on what is being examined, and the richness of the data (161, 162). A sample could be considered too small if the data is restricted in scope and variation; results based on such data will be uncertain (161). We could see that data from interviews with different types of participants overlapped in several areas, indicating a substantial level of agreement, but a greater variation among GPs and employers could have provided greater certainty in the findings, in particular those relating specifically to GPs and employers. The results are likely valid among patients with CMD but may not be transferrable to a more general population of GPs and employers. Transferability of findings may also be limited to settings with a similar primary healthcare organization and sickness certification process. Another important limitation is that the interviews could be performed as late as nine months after the use of the Capacity Note, which increases the risk of recall bias. This was, however, necessary to achieve a reasonably large population to recruit from. Selection bias cannot be ruled out, but participants generally stated an interest in mental health research in general as the reason for participating, rather than a particular interest in or favour of the Capacity Note. The participants

seemed at ease during the interviews but some occasions of giving socially desirable answers were noted.

Study IV

The strength of this study is its novel approach of 1) engaging the patient to achieve an improved communication between patient, GP and employer, and 2) to provide a tool rather than a method to support the GP's own professional assessment of the patient. The main limitation of the study is the small sample size which prevented us from drawing any conclusions about the effect on sick leave of using the Capacity Note. There are also limitations in the study design that may have reduced differences between intervention and control group. Randomization at GP level may have led to contamination as the GPs could discuss the study with each other. Also, letting control GPs use part I of the Capacity Note may have introduced bias as it contained questions about the patient's workplace.

Performing research in the primary healthcare setting – challenges and lessons learned

As in many other countries, the Swedish primary healthcare is the first line of care for many conditions (163). Up to 700 different diagnoses are handled every year (164). The care is given in close collaboration with the patient and, in general, a holistic approach is applied which means that the physician is aware of the patient's full health situation. A characteristic of the Swedish primary healthcare, which differ from other countries, is the multi-professional work (163). Psychologists, social medical workers, physiotherapists and occupational therapists work at, or in close connection with, the clinic (163). These professionals complement the work of the GPs and nurse, while in other countries the number of GPs per inhabitants is much higher (163). Swedish GPs meet fewer patients per hour but are more stressed compared to GPs in other countries and report a higher administrative burden (163).

Studies in primary healthcare are usually designed as pragmatic trials. These are designed to take place in a "real world setting", i.e., they are performed within the context where the results are to be applied, to examine if the intervention works in real life (165). In such trials, where many factors are not controlled for, the number of participants must be high to detect differences between intervention and control groups (165). However, primary healthcare studies often struggle with recruitment (166, 167).

Despite several measures to facilitate recruitment of patients, the recruitment rate in our study was low. One explanation is the vulnerability of the patient group; lack of energy was a common reason for not participating, as was hesitation to talk to the employer, based on perceived stigma regarding CMD. There were also significant barriers within the primary healthcare organization. First of all, only eight of 18 PHCCs participated. Primary healthcare units are usually small, as seen in Table 3, requiring engagement of many units. Circumstances such as shortage of staff, composition of staff (e.g., level of experience, many locums), presence of other research projects, lack of interest in research among staff or management, lack of incentives for performing research, etc., can influence whether units can or want to participate in a research study. Shortage of staff was a common reason for not participating in our study. At the participating PHCCs, another consequence of the strained organization was that we had to keep the information meetings short. This may have led to a lack of confidence regarding the study procedures among the GPs (157, 168). The pressured working situation may also have been a barrier for GPs to engage in the study, causing them to prioritize clinical and administrative work over research (157, 168). Furthermore, we had occasional comments from GPs that the patients might be too vulnerable to participate in a study, which is in line with other findings about barriers to recruitment of this patient group (157). GPs' personal attitudes to research and/or sickness certification may also have played a part. For example, one GP told us that he never issues sick leave for longer than two weeks, why our study was of no interest to him. Lastly, reimbursement for recruited patients was awarded the PHCC rather than individual GPs, meaning that the incentive for or pressure on the individual GP to engage in the study was limited. Previous research has also shown that such economic reimbursement had a very limited impact on the recruitment of patients (168).

We received several positive comments about the importance of our project but it seems that there were too many barriers to fully engage in it. Based on the positive results in study III, it would be of great interest to test the Capacity Note in a larger trial. Drawing from the experiences described above, potential areas of improvement in the design of a larger trial are:

- Requesting more time at each PHCC before study start for informing and preparing participating physicians.
- Staying for at least 4 weeks at each PHCC to make sure that the physicians have time to get comfortable with the study routines.
- Randomization at PHCC level, to reduce the risk of contamination. This might, however, introduce selection bias if there are differences in sociodemographic characteristics between catchment areas.

- Performing the study at several PHCCs at the same time. This would require more resources, for example having several research assistants being active simultaneously, but would likely be more effective in the end.
- Ideally, engaging at least one staff member at each PHCC as an advocate for the study.

In addition, the intervention could be refined, to increase the possibility of detecting differences in outcomes between intervention and control group. For example:

- Adding emphasis in the instructions for the Capacity Note that employee and employer should discuss part 2 before discussing part 3.
- Adding more control functions to the process, for example reminding patients to contact their supervisor.
- And possibly, adding a follow-up discussion between employee and employer with feedback to the physician: Where the work adjustments implemented? Did it help? Etc.

It should be noted, however, that these alterations are to some extent in conflict with the agency approach taken in the project and would make it more difficult to test if such an approach is feasible.

CONCLUSION

In the assessment of work capacity, physicians consider a variety of factors, both medical and non-medical. They use their medical skills, but rely also on tacit knowledge and trust in the patient. The assessment is complex and contextual. It is less of a measurement, and more an assessment of what is reasonable in each given case. The assessment could be improved by increasing physicians' knowledge about the interactions between working life and health, and also by making information about the patient's workplace more available to them.

Most GPs considered contacts with sick-listed patients' employers valuable for ensuring high quality in their work with sickness certification. Yet, a majority of GPs had neither direct nor indirect contacts with employers. Both factors related to the GPs, such as being a specialist or not, and organizational factors, such as having a joint sickness certification policy at the clinic or not, were associated with having and being satisfied with employer contacts. Collaboration with rehabilitation coordinator had the strongest association with employer contacts which suggests that this function is an important organizational support for GP-employer contacts, but further studies are needed to confirm this and to evaluate whether it actually contributes to better quality in physicians' sickness certification practices.

A brief intervention to facilitate early communication between GPs, patients with CMD, and their employers was found relevant and as having the potential to support communication and understanding among the stakeholders. Having enough time was considered necessary to achieve these benefits, as was honesty and openness. Due to a small sample size, no conclusions could be drawn about effects on length of sick leave. The recruitment rate was negatively affected by poor research conditions in the primary healthcare setting.

To sum up, sickness certification is a complex task where the GP is not an isolated actor. The GP's practices take place in close interaction with patients' wishes, capacities etc., employers' willingness and possibilities to adapt the workplace, the sickness insurance system with its regulations and guidelines, and the GP's own workplace with its structures and resources. All these aspects need to be considered when evaluating and aiming to improve physicians' sickness certification practices.

IMPLICATIONS AND FUTURE PERSPECTIVES

The handling of sickness certification is of great importance to public health. Physicians have a central role in this process and it is therefore important to study their practices. This thesis contributes to an increased understanding of physicians' – in particular general practitioners' (GP) – practices in the sickness certification process. Two of the studies concern the handling of patients with common mental disorders (CMD). Sick leave due to CMD is increasingly common in the working population and therefore an equally important issue to study.

The findings of this thesis suggest that, given the complexity of the sickness certification task, there must be room for individual and professional handling of sick leave cases. At the same time, it is clear that GPs' practices in the sickness certification process could be improved by provision of appropriate resources. Both individual, organizational and other contextual factors affect the handling of a sick leave case and must be addressed in interventions aiming to affect physicians' sickness certification practices. For one, it is obvious that GPs need better insurance medical competence. They need better knowledge about how work capacity is affected by different conditions and in different workplace contexts. However, scientific evidence on this is scarce, especially for mental disorders, and further research is needed to provide evidence-based knowledge support for physicians. At the same time, the subjectiveness of the assessment must be recognized and acknowledged. Guidelines, even though evidence-based, cannot capture the specifics of each individual patient. There is also room for improvement in the organizational support provided to GPs. Time occurred several times in our findings as an important facilitator for assessment and collaboration. Serious thought needs to be given to how primary healthcare clinics can make more time available for GPs in their work with sickness certification. It is also vital that the management provide and promote other support, such as joint routines for sickness certification. Future studies should also look more closely into the importance of the rehabilitation coordinator function for GPs' sickness certification practices, as this function is now mandatory by law. Does it facilitate the assessment of work capacity and need of sick leave? Does it increase the quality of GPs' work with sickness certification? How should GPs and rehabilitation coordinators best work together to ensure high quality in the sickness certification process? Qualitative as well as quantitative studies should be conducted to answer these questions.

The Capacity Note addressed the need to facilitate stakeholders' communication about the patient's situation. The results suggest that it was a relevant and helpful tool for this. The Capacity Note also targeted the passiveness and lack of control

that patients can experience in the sick leave process, and it seems that it had the potential to bring clarity and strengthen the patient's agency. The findings regarding the usefulness for GPs and employers need further exploration. The Capacity Note also needs to be evaluated further in a larger randomized trial before any conclusions can be drawn about potential effects on patients' sickness absence. The poor recruitment in study IV also sheds light on the suboptimal research conditions in primary healthcare. Provision of organizational support and resources for research and development work within the primary healthcare setting is essential (169) and there seem to be considerable room for improvement.

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APPENDIX

RESURSLAPPEN

Resurslappen är tänkt att beskriva hur din aktuella hälsa påverkar din förmåga att arbeta, och ge dig möjlighet att diskutera detta med din arbetsgivare. Målet är att hitta en lämplig väg framåt.

Resurslappen ska användas på följande sätt:

1. Fyll i del 1 och del 2 tillsammans med din läkare.
2. Ta med den ifyllda resurslappen till din chef eller arbetsledare. Tillsammans diskuterar ni vilka anpassningar som är möjliga att göra på din arbetsplats utifrån den hälsa som du har just nu, och fyller i detta i del 3.
3. Skicka tillbaka den helt ifyllda resurslappen i det bifogade kuvertet. Resurslappen läggs in i din journal så att du och din läkare kan diskutera din arbetssituation vid nästa besök. Det är bara del 1 som kommer att användas för forskning.

KORT OM FORSKNINGSPROJEKTET

Resurslappen ingår i forskningsprojektet Capacity Note – tidig och systematisk kommunikation mellan läkare, patient och arbetsgivare.

Capacity Note är ett samverkansprojekt mellan Göteborgs universitet och Västra Götalandsregionen. Läs gärna mer på www.epso.gu.se/newways.



DEL 1

Information om dig och ditt arbete

(Fylls i tillsammans med din läkare)

Namn: _____

Personnummer: _____

Datum: _____

Ange ditt yrke/sysselsättning (så specifikt som möjligt):

Arbetar du heltid eller deltid?

heltid (40 timmar/vecka) deltid: _____%

Förekommer övertidsarbete?

nej ja: _____ timmar/vecka

Hur ser dina arbetstider ut?

dagtid kväll/natt oregelbundna tider skiftarbete

Hur ser din anställningsform ut?

tillsvidare vikariat projektanställning egenföretagare

annat: _____

Övrig information om din arbetssituation

chefsposition flexibelt arbete (kan anpassa tid och plats)

annat: _____

DEL 2

Information om hur din hälsa påverkar din arbetsförmåga (Fylls i tillsammans med din läkare)

Kryssa i alla påståenden som stämmer för dig och din situation just nu.

Koncentration och minne

Just nu påverkas min arbetsförmåga av att det är svårt att:

- koncentrera sig, det går "trögt" att tänka
- ta till sig information
- lära sig nya arbetsuppgifter
- komma ihåg (t.ex. mötestider, hur man utför arbetsuppgifter)
- prioritera bland arbetsuppgifter
- komma igång med uppgifter
- slutföra uppgifter
- utföra komplexa uppgifter (dvs. ej standardiserade uppgifter/"rutinuppgifter")
- göra flera saker samtidigt ("ha många bollar i luften")
- leda arbete, både mitt eget och andras (dvs. att ha överblick, fatta beslut, delegera m.m.)
- hålla koncentrationsförmågan uppe mer än kortare stunder
- hålla ett högt tempo mer än kortare stunder
- jobba under tidspress
- annat:

Känslor

Just nu påverkas min arbetsförmåga av att det är svårt att:

- kontrollera känslor
- ta kritik
- hantera förändringar
- känna engagemang
- vara kreativ
- annat:

(forts. del 2)

Kryssa i alla påståenden som stämmer för dig och din situation just nu.

Kroppen

Just nu påverkas min arbetsförmåga av:

- kraftlöshet och/eller svaghet i kroppen
- ömhet eller spänning i kroppen
- jag blir lätt störd av ljud- och/eller synintryck, har behov av att arbeta avskilt
- annat:

Socialt

Just nu påverkas min arbetsförmåga av att det är:

- påfrestande att samspela med andra människor (t.ex. arbetskamrater, kunder, elever)
- påfrestande att delta i sammanhang där många personer är samlade (t.ex. möte, fikarast)
- svårt att utföra mitt arbete när andra tittar eller lyssnar
- annat:

*OBS! Innebär något av dessa påståenden en risk för dig eller andra i din arbetsituation?
(exempelvis om du kör yrkesfordon eller sköter farlig maskin)*

Om ja, ange på vilket sätt:

Eventuella andra saker som påverkar arbetsförmågan:

DEL 3

Hur kan ditt arbete anpassas? (Fylls i tillsammans med din chef eller arbetsledare)

Datum: _____

Är det möjligt att:

Byta arbetsuppgifter (t.ex. "rutinuppgifter" istället för komplexa uppgifter, administrativa uppgifter istället för kundkontakt)

nej ja

ja, delvis/tillfälligt (ange hur): _____

Ändra kontakter med patienter, elever, kunder etc. (t.ex. färre, kortare tid)

nej ja

ja, delvis/tillfälligt (ange hur): _____

Ändra kontakter med arbetskamrater, medarbetare etc.

nej ja

ja, delvis/tillfälligt (ange hur): _____

Minska antalet interna möten (t.ex. APT, planeringsmöten)

nej ja

ja, delvis/tillfälligt (ange hur): _____

Ta paus regelbundet

nej ja

ja, delvis/tillfälligt (ange hur): _____

Arbeta med lägre intensitet (t.ex. färre uppgifter, lägre tempo)

nej ja

ja, delvis/tillfälligt (ange hur): _____

Arbeta utan övertid

nej ja

ja, delvis/tillfälligt (ange hur): _____

(forts. del 3)

Är det möjligt att:

Minska fysisk belastning (t.ex. tunga lyft, vridna arbetsställningar)

nej ja

ja, delvis eller tillfälligt (ange hur):

Minska tid framför datorskärm

nej ja

ja, delvis eller tillfälligt (ange hur):

Förändra ljudmiljön eller ljusmiljön

nej ja

ja, delvis eller tillfälligt (ange hur):

Byta arbetsplats (t.ex. rum, plats i rum, från ute till inne eller tvärtom)

nej ja

ja, delvis eller tillfälligt (ange hur):

Ordna en tillfällig omplacering

nej ja

Deltidssjukskrivning

Är det möjligt för dig, med tanke på dina arbetsuppgifter och de anpassningar som kan göras, att arbeta deltid (i kombination med sjukskrivning på deltid)?

Om ja, ange arbetsgrad:

10-25 % 26-49 % 50-75 % 76-90 %

Eventuella andra möjligheter till anpassning:

