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General introduction

Background
Sick-listed workers without an employment contract have a more vulnerable position in the labor market compared to sick-listed employees. For these workers the absence of a workplace to return to can become a major obstacle for return to work (RTW). Further, compared to long-term sick-listed employees, long-term sick-listed workers without an employment contract often experience a worse health condition, have more psychosocial obstacles for RTW, are more often low skilled, and have less work experience. In the Netherlands, the Dutch Social Security Agency (SSA) is responsible for occupational healthcare (OHC), including sickness benefit payment, for sick-listed workers without an employment contract. Workers belonging to this group are sick-listed unemployed workers, temporary agency workers and workers with an expired fixed-term contract. Many of these workers (about 40%) file a sickness benefit claim on the grounds of mental health problems. Nevertheless, evidence-based RTW interventions are still lacking for workers without an employment contract, sick-listed due to mental health problems. Worldwide, mental health problems, and in particular common mental disorders (CMDs) such as depressive, anxiety, and stress-related disorders, have become a growing cause of sickness absence, leading to high societal costs and individual suffering. Although in the international literature there is growing attention for the development and evaluation of interventions that aim to promote RTW of workers who are sick-listed due to a CMD, almost all these interventions assume the presence of a workplace to return to, and do not take into account changes in the labor market towards more flexible forms of employment. This illustrates that both from a national and international perspective, there is a need for RTW interventions aimed at workers sick-listed due to a CMD, including those without an employment contract.

Aim of this thesis
The main aim of this thesis was to improve RTW of workers without an employment contract, sick-listed due to a CMD. The sub-objectives of this thesis were:

1. To get a broad understanding of factors that in the long run influence sustainable RTW of sick-listed workers with a CMD;
2. To develop a new participatory supportive RTW program for workers without an employment contract, sick-listed due to a CMD, based on a participatory RTW program, integrated care and direct placement in a competitive job;

3. To evaluate the execution of this new program in practice;

4. To evaluate the effectiveness and cost-effectiveness of the new program in shortening the duration until sustainable RTW in a competitive job.

**Objective 1: to get a broad understanding of factors that in the long run influence sustainable return to work of sick-listed workers with a common mental disorder**

Chapter 2 describes longitudinal associations between demographic, personality, disorder-related and work-related characteristics and sustainable RTW in two years of sick-listed workers with a depressive or anxiety disorder. We used data of a large Dutch cohort study, titled “The Netherlands Study of Depression and Anxiety” (NESDA). Logistic regression analyses were performed to study associations. Results of these analyses indicated that in the long-run younger age, higher household income and being (self-)employed are all together associated with higher odds of sustainable RTW in two years of sick-listed workers with a depressive or anxiety disorder.

**Objective 2: to develop a new participatory supportive return to work program for workers without an employment contract, sick-listed due to a common mental disorder**

Chapter 3 describes the development of the participatory supportive RTW program and the design of “The Co-WORK study” aiming to evaluate the (cost-)effectiveness of the new program, in comparison with usual OHC. The key component of the new program was a participatory approach, consisting of a stepwise process in which the sick-listed worker identifies obstacles for RTW and searches for solutions, together with a labor expert and RTW coordinator of the SSA. Direct placement in a competitive job and an integrated care approach were added to the protocol to facilitate RTW in the absence of a workplace to return to and to avoid conflicting advice by occupational and mental healthcare professionals. Vocational rehabilitation agencies were contracted to support the placement
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in a suitable job. Further, cooperation between the insurance physician of the SSA and the sick-listed worker’s healthcare provider(s) was stimulated.

The design of the Co-WORK study consisted of a randomized controlled trial (RCT) with two arms, an intervention and a control group, and a follow-up period of 12 months. Participants in both groups received usual OHC. In addition, participants in the intervention group were allocated to the new program.

Objective 3: to evaluate the execution of the new program in practice

Process evaluation

Chapter 4 contains a process evaluation of the new program. The main aim of this evaluation was to investigate which components of the program were realized in practice and to which extent these components were executed according to protocol. A total of 186 sick-listed workers participated in the Co-WORK study, of which 94 participants were randomly allocated to the new program. The process evaluation revealed that in practice only 36 of these participants actually had participated in this program. The most frequent reason for not participating in the program was a medical contra-indication, assessed by the insurance physician of the SSA. Fidelity to the protocol in these 36 cases was low to reasonable: in the RTW action plans, resulting from the participatory approach, it was often not explained properly how a perceived obstacle could complicate RTW; only two participants were placed in a suitable competitive job; execution of the program’s consecutive steps was often not in accordance with the prescribed time frame; and in only half of the cases the insurance physician applied an integrated care approach. Still, most of the participants and professionals were satisfied with the participatory approach. The insurance physicians were also quite satisfied with the communication with the participants’ healthcare providers. Participants and professionals were less satisfied with the execution of direct placement in a competitive job.

Evaluation of stakeholders’ perceptions

Chapter 5 describes a qualitative evaluation of the new program. Interviews were held with two insurance physicians, three labor experts, three RTW coordinators, two case managers of vocational rehabilitation agencies and five sick-listed workers, who all had participated
in the new program. The objective of this study was to get a better understanding of the execution of the program in practice. Stakeholders’ perceptions of the functions of the participatory supportive RTW program in practice and their perceptions of barriers and facilitators for a successful execution of the program within the Dutch social security sector were evaluated.

This evaluation revealed that according to professionals of the Dutch SSA, in practice the functions of a participatory approach and integrated care had been as intended, i.e., making a consensus-based RTW action plan, and improving communication and cooperation with the clients’ healthcare provider(s). The sick-listed workers did not mention these functions. They stressed that they had received too little support by the SSA and the contracted vocational rehabilitation agencies. According to all stakeholders the job search based on the RTW action plans often had not resulted in direct placement in a competitive job. Reported barriers for a successful execution of the program were related to: 1. poor collaboration between the SSA, the vocational rehabilitation agencies and the (mental) healthcare sector; 2. the particular (health) problems experienced by the clients; 3. time constraints; and 4. limited opportunities in the Dutch labor market. Perceived facilitators for a successful execution of the program were: 1. reducing the number of SSA professionals involved; 2. earlier involvement of the vocational rehabilitation agency; and 3. making work arrangements with employers.

**Objective 4: to evaluate the effectiveness and cost-effectiveness of the new program in shortening the duration until sustainable RTW in a competitive job**

**Effectiveness evaluation**

Chapter 6 presents the results of the Co-WORK study. The main aim of this evaluation was to study the effectiveness of the new program in shortening the duration until first sustainable RTW in a competitive job, compared to usual OHC. Cox regression analysis was applied to study this outcome. This analysis revealed a hazard ratio (HR) of 1.15 (95% CI 0.61–2.16) (adjusted for possible confounders), which indicates no significant effect of allocation to the new program on the duration until first sustainable RTW. Also ‘per-protocol analyses’, including only those intervention group participants who actually had
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participated in the new program (N=36), showed no significant effects of the program compared to usual OHC.

Cost-effectiveness evaluation

Chapter 7 presents from a societal perspective the cost-effectiveness of the new program in reducing the duration until first sustainable RTW in competitive employment and in gaining quality-adjusted life years, compared to usual OHC. In addition, return on investment (ROI) analyses were conducted from the social insurer’s perspective. The results of these analyses revealed that from a societal perspective, the new program was neither cost-effective in improving sustainable RTW nor in gaining QALYs. The maximum probability of cost-effectiveness was 0.64 at a willingness to pay of about €10 000 for one day earlier sustainable RTW. For QALYs gained the maximum probability of cost-effectiveness was 0.27, regardless of the willingness to pay. From the social insurer’s perspective the estimated maximum probability of a positive financial return was 0.18.

General discussion

Interpretation of findings

The findings of this thesis reveal that some workers, such as workers without an employment contract, are more vulnerable than others when becoming sick-listed. The findings of this thesis also show that the new participatory supportive RTW program did not result in a (cost-)effective improvement in the duration until sustainable RTW of these workers, compared to usual OHC. Due to the low protocol adherence it remains unclear what the results would have been if the program had been executed as intended. A comparison of our findings with other studies on a participatory RTW program suggests a more beneficial effect of this type of program for sick-listed workers with physical complaints and for sick-listed workers who are still employed.

Our research reveals four main challenges in improving RTW of workers without an employment contract, sick-listed due to a CMD:

1. The absence of a workplace/employer;
2. Perceived ill-health and perceived inability to return to work early after sick-listing;
3. Poor collaboration between services in (occupational) healthcare and vocational rehabilitation;
4. Constraints in time or capacity within the organizations involved in OHC of these workers.

These four factors may have challenged the execution of the new program according to protocol, resulting in implementation failure. Further, it is also possible that the new program insufficiently addressed these challenges. This could mean that also theory failure has played a role in the absence of a beneficial intervention effect.

Implications for research and practice

The findings of this thesis have several implications for research and practice. We can distinguish two major implications for research and four major implications for practice.

Implications for research
1. We recommend future studies evaluating a new RTW program to also include intermediate measures (output measures) on which the intervention will have a more direct influence, in addition to the desired outcome;
2. We recommend to identify barriers for a successful implementation and to assess the specific needs and context of the target group in an early phase, to prevent implementation and theory failure in future intervention research.

Implications for practice
1. We recommend professionals of the Dutch SSA to apply a participatory approach for the identification of RTW obstacles together with the sick-listed worker. Nevertheless, to enhance RTW of these workers, the development and evaluation of other or additional intervention components is still necessary;
2. We recommend professionals and policy makers within the Dutch social security sector to create a RTW perspective for sick-listed workers without an employment contract;
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3. We recommend professionals of the Dutch SSA to pay specific attention to the sick-listed worker’s perceived ability to RTW early after sick-listing;
4. Finally, all challenges in improving RTW of workers without an employment contract, sick-listed due to a CMD, reveal the importance of better integration of services in (occupational) healthcare and vocational rehabilitation.

Conclusions

The results of this thesis underline the need for further development of a suitable RTW intervention for workers without an employment contract, sick-listed due to a CMD. The insights into the challenges in improving RTW of these workers, obtained through this thesis, can be used for the development and evaluation of a more suitable RTW program in future.