Summary

Development and evaluation of an implementation strategy for insurance medicine guidelines for depression

General introduction

Since 2006, 20 Dutch insurance medicine guidelines have been developed for various diseases. These guidelines were steadily implemented by the Dutch Institute for Employee Benefits Schemes (UWV) in insurance physician's (IP) practice. The implementation of all these guidelines was never evaluated, and therefore, the Knowledge Center for Insurance Medicine (KCVG) decided to start a research project on one of the insurance medicine guidelines. The guidelines for depression were chosen, because of their relevance for society. Depression causes a sizeable part in the total amount of work disability world wide, and in the Netherlands depression as diagnosis takes the first place for inflow into the disability benefits. Insurance medicine in practice at the UWV was explained with regard to the context of insurance medicine guidelines. A case history of a client with depression was introduced to make clear that the assessment of a client with depression is not an easy task for an IP, and that the use of guidelines not only might relieve this task, but also might have effect on the assessment of work limitations of a client by an IP. IPs and various other stakeholders within the UWV had several questions concerning the implementation of guidelines:

- Which strategy can be developed to implement the guidelines for depression, in order to promote use by IPs?
- What are the effects of such a developed implementation strategy on the guideline adherence of the IPs and on their knowledge of the guidelines?
- What are the effects of such a developed implementation strategy on the behavioural determinants of the IPs regarding the use of the guidelines?
- What are the effects of such a developed implementation strategy on the number and severity of work limitations when applying the guidelines?
- What are the effects of such a developed implementation strategy on the inter-IP agreement in the work disability assessments of the IPs?
- What are the effects of such a developed implementation strategy on the satisfaction of the IPs?

Development of the implementation strategy

Chapter 2 describes the development of the implementation strategy, using the Intervention Mapping (IM) method. This IM method supplies a stepwise framework, to develop and evaluate an intervention. The development of the implementation strategy was supported by a psychological behavioural model, the Attitude, Social influence, self-Efficacy model (ASE model). By interviewing IPs in practice and stakeholders, we analysed the context at the UWV. Additionally, we performed a needs assessment of the IPs in practice regarding implementation of guidelines. Finally, we designed the implementation strategy after consulting literature, IP trainers and various experts in the field of guideline implementation. IM provided the planning tool for mapping the path of the intervention development from a needs assessment to the potential solution. In this way, our approach differed from the usual implementation of guidelines at the UWV, which was merely a top-down approach. Intervention mapping appeared to be a useful but time-consuming method for the development of a multifaceted implementation strategy for the guidelines for depression. The developed implementation strategy consisted of a multifaceted training, in which the IPs, facilitated with various tools, should learn to apply the guidelines for depression. The IPs should be trained by two trainer IPs in interactive subgroups and should receive feedback on their performances. The evidence-based theory of the guidelines was translated for use in practice, and summarized on a desk mat.

Development and reliability of performance indicators

Chapter 3 presents the development of performance indicators (PI) and their reliability. For the evaluation of the implementation strategy, we had to develop an instrument to measure the IPs' guideline adherence. PIs for measuring guideline adherence were developed with the help of experts. We ended up with six PIs in the form of decision trees, reflecting the most important elements of the guidelines. The PIs indicate whether or not an assessment report is adequate according to the guidelines. With these PIs, the IPs' guideline adherence in the disability assessment reports as a whole could be measured in a sum score.

Eight selected IPs (Test IPs) were trained in applying the PIs. After the training they applied the PIs on ten constructed disability reports of clients with depression, to test the reliability of the application of the PIs. The Test IPs considered the PIs as a content valid and feasible instrument. The PIs were found to be a reliable instrument (ICC 0.70 or higher) if at least two Test IPs were involved.

Behaviour of the insurance physicians

Chapter 4 describes the explorations of the determinants of the IPs' behaviour towards guidelines in general, and more specific to the guidelines for depression. As a starting point for the study of the IPs' behaviour we used the ASE model. We developed questionnaires for measuring the baseline characteristics of the participating IPs, the ASE determinants of the IPs' behaviour towards guidelines, and the interfering factors in the model. The majority (85%) of the participating IPs reported to use at least some elements of the guidelines for depression. We studied the IPs' behaviour towards the guidelines for depression by analysing the data of the questionnaires with the use of structural equations modelling. It appeared that the IPs' intentions to use the guidelines for depression and their self-reported use of these guidelines were related to the influence of colleagues, their self-efficacy, and the way the guidelines are implemented. However, the ASE model could only partly be confirmed, because we did not find a relationship between intention and self-reported use.

The evaluation of the implementation strategy

Chapter 5 presents the evaluation of the implementation strategy. The main aim of this study was to evaluate whether the implementation strategy would improve the guideline adherence of the IPs. The secondary outcome of this study was the IPs' knowledge of the guidelines for depression. The developed strategy was evaluated in an experiment in a controlled setting. We compared the developed implementation strategy (intervention group) to the usual methods of implementing guidelines at the UWV (a 'placebo' training for the control group) by measuring their performances in disability assessments of clients with depression in the experiment. All participating IPs had to assess the disability of four different clients with depression, played by actors, and presented at video. The IPs wrote two disability assessment reports before, and another two after the implementation strategy. The guideline adherence in the disability reports of the participating IPs was assessed by trained Test IPs using the PIs (see Chapter 3).

The IPs who received the implementation strategy performed significantly better on the PIs (on average 4.44 on the theoretically mean PI sum score 1.00-5.67) than the IPs from the control group (on average 3.32). Higher scores on the PI sum score on a report indicated that the report was more in concordance with the guidelines. The IPs knowledge of the guidelines was separately tested, and the IPs in the intervention group who had received the implementation strategy performed better on the knowledge test than the IPs from the control group. We concluded that the developed implementation strategy for the guidelines for depression improved the guideline adherence of IPs and their knowledge of the guidelines in an experimental, controlled setting.

The changes in determinants of insurance physicians' behaviour after the implementation strategy

Chapter 6 describes the changes in the behavioural determinants of the IPs towards the guidelines for depression caused by the implementation strategy. These behavioural determinants were measured using questionnaires developed on base of the ASE model, before and three months after the training in applying the guidelines for depression. The IPs' behavioural determinants, based on the ASE model, changed positively after having received the implementation strategy compared to the control group. All investigated determinants of the ASE model (i.e. attitude, self-efficacy, knowledge and skills, and the intention to use the guidelines) changed significantly when the intervention group was compared to the control group. After the implementation strategy, attitude and intention to use the guidelines improved with 12%, self-efficacy with 10%, and knowledge and skills with 5%. Only changes in self-reported knowledge and skills were related to the improvements in observed guideline adherence of the IPs, as measured with the PIs. However, this relation was only weak.

Number and severity of work limitations and inter-rater reliability of disability assessments when applying insurance medicine guidelines for depression

The aim in Chapter 7 was to study the influence of the implementation strategy on the IPs' assessment of the work ability of clients with depression, using the standardised form of the List of Functional Abilities (LFA). The IPs who participated in the controlled experiment assessed the work disability of four different clients with depression. They scored for each client the accompanying LFA. After the implementation strategy: 1) IPs applied significantly more numerous and severe work limitations, and 2) the inter-rater reliability of work disability assessments of clients with depression by IPs was higher in the intervention group than in the control group, the latter was, however not significant.

IPs should be aware of the fact that following guidelines often implies collecting more information about a client, which can lead to the finding of more work limitations, both in number and in severity, in that client. For policy makers it is interesting to know that it is possible to improve uniformity in the work disability assessments by proper training IPs in applying the guidelines.

The process evaluation of the implementation strategy

Chapter 8 presents how the implementation strategy was perceived by the IPs. The 42 IPs who participated in our study were highly satisfied with the implementation strategy overall (a mean score of 7.7 on a 1-10 scale). In particular, they appreciated the training and the summary desk mat. Immediately after having received the implementation strategy, the majority (81%) of the IPs expected to improve their assessments of clients

with depression by applying the guidelines, and 86% expected to improve their assessment reports. After three months 96% of the IPs considered the implementation strategy as having been useful. Time needed for applying the guidelines was mentioned by some of the IPs as a barrier, and some of them had concerns about changing their work routines regarding applying the guidelines. A weakness of our study was that we reached only 5% of the IPs working at the UWV.

The general discussion

Chapter 9 presents the answers to the questions asked in the General Introduction as the main findings of this thesis. In addition, methodological considerations and recommendations for further research were addressed.

The use of the Intervention Mapping method, for the development, the planning, and finding the right approach of the implementation strategy was described. The design of the study was discussed by mentioning the pros and cons of the efficacy design versus the effectiveness design with regard to the context of the UWV. The original plan, to evaluate the developed strategy in an effectiveness study at the UWV, failed because of practical reasons. Therefore, we carried out an efficacy study for the implementation strategy in the form of an experiment in a controlled setting. The primary outcome of the research project, guideline adherence with the accompanying measurement instrument was clarified. Educational aspects of the implementation strategy were reflected on in a broader perspective. The exploration of IPs' behaviour towards guidelines by the use of psychological models was discussed with regard to literature. In addition, the developed implementation strategy was compared to the features of effective implementations described in literature. In general, barriers to the implementation of guidelines are an important issue, and therefore we added a paragraph on the potential barriers for our implementation strategy.

Conclusions and implications

An implementation strategy for the insurance medicine guidelines for depression was developed and evaluated. The efficacy of developed implementation strategy was demonstrated. In this study it was shown that IPs who received the implementation strategy adhered better to the guidelines for depression, and had a better knowledge of these guidelines than a control group who had received the usual implementation by the UWV. Furthermore, the IPs appreciated the implementation strategy, as was also confirmed by a positive change in their behaviour towards the guidelines for depression. Finally, the inter-IP agreement improved, indicating more uniformity between the IPs in their work disability assessments of clients with depression.

The overall conclusion is that we successfully managed to develop a multifaceted implementation strategy for the guidelines for depression. However, evaluation of this implementation strategy in real practice remains still needed. Besides, the implementation strategy was mainly evaluated on the level of the IPs, and in a specific controlled setting. Evaluations of other levels, such as the organization or the client are also important. The results of this thesis have various practical implications for IPs, stakeholders, and for medical education programs aiming at IPs. For IPs: this implementation strategy can improve the quality of the IPs work disability reports, which makes the IPs' work more transparent to others, and uniformity of the assessments can be enhanced. For UWV stakeholders: this implementation strategy for the guidelines for depression should be applied throughout the Netherlands, and can also be adapted to other insurance medicine guidelines. Monitoring IPs' performances on applying guidelines has been made possible. For educational programmess aiming at IPs: the translation of evidence-based medicine from the guidelines to IPs' practice can be achieved by using experienced IP trainers and with help of realistic case histories of UWV clients. The efficacy of the developed implementation strategy for the guidelines for depression has been demonstrated. This implementation strategy contributes to quality improvement in insurance medicine.