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Shared decision making in mental health care

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Chapter 9

General discussion

General Discussion

In this thesis, the effectiveness of applying Shared Decision Making (SDM) in specialist mental health care was studied. The central aim was to investigate whether SDM using ROM and eHealth led to more patient participation in clinical decision making, more satisfactory decisions, better working alliance, more treatment adherence and better treatment outcomes. This section describes the contribution of this entire dissertation to our understanding of the implementation of SDM using ROM and eHealth and its added value for patients and clinicians. First, the main findings of the individual studies are summarized. Next, the methodological issues and subsequently the implications for clinical practice and research are described. This chapter ends with an overall conclusion of this thesis.

Key findings Part I: Decisional conflict: a concept to assess the quality of clinical decision making.

In order to evaluate SDM and assess its contribution to the quality of clinical decision making, it was first necessary to explore if decisional conflict would be an useful construct to applicate in specialist mental health care (**Chapter 2**). Decisional conflict refers to the degree to which patients are engaged in and feel comfortable about important clinical decisions. A review of literature on decisional conflict was conducted to describe this construct more thoroughly and to illustrate it in a model. The results of this review showed that decisional conflict is a multi-dimensional concept that is related to the interaction between patient and clinician. It affords insight into influencing factors, the decision-making process and the quality of the decision-making and can be measured with the decisional conflict scale. As illustrated in Figure 1 decisional conflict is characterized by five dimensions, i.e. 1) feeling informed about treatment options, 2) feeling supported and not pressured by others in choosing between options, 3) having clarity about one's own values, which are important in decision making, 4) experiencing certainty in choosing the best suitable options, 5) feeling comfortable, satisfied and committed regarding the decision being made. The decisional conflict scale includes these five dimensions

(information, support, clarification of values, certainty, decision quality) as well as an overall score. Initially, when patients are confronted with making difficult decisions, the level of experienced decisional conflict can be high. However, when the decision making process runs satisfactorily, patients usually feel less uncertain and more comfortable about the decisions being made, and thus experience less decisional conflict. This is deemed very important, because less decisional conflict leads to higher patient satisfaction with the clinician, more treatment engagement and better treatment outcomes, whereas high decisional conflict has negative consequences in terms of decisional delay, regret, treatment drop-out, worse clinical outcomes and a higher intention to complain about treatment. Previous research, conducted in general health care, pointed out that decisional conflict is suitable to evaluate the application of SDM in clinical practice. Until now, decisional conflict has not been much used in mental health care, while in this field decisional conflict is useful to evaluate the quality of clinical decision making and the application of SDM.

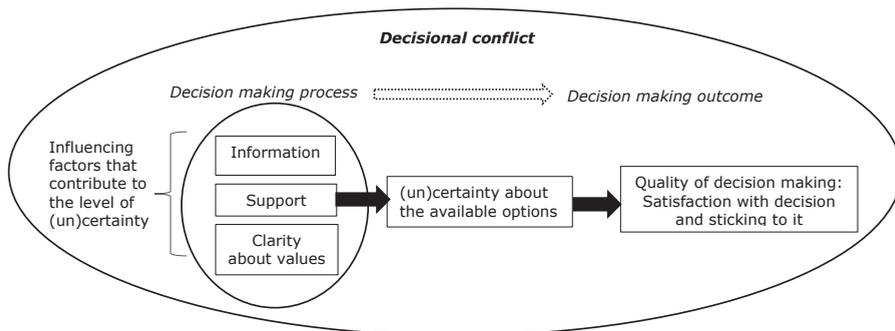


Figure 1. Decisional Conflict illustrated in a model

Furthermore, a cross-sectional study on decisional conflict was conducted among various patient groups treated in different settings of specialist mental health care (**Chapter 3**). This study showed that, according to thresholds described in the manual and compared to patients in other health care settings, the degree of decisional conflict experienced by patients in specialist mental health care was relatively high on all five dimensions of decisional conflict. Especially patients with less internal locus of control, which implies less ability to control the circumstances of one's life, report high levels of decisional conflict, both on the overall scale and five dimensions of the decisional conflict

scale. As expected, having a personality disorder was also associated with more decisional conflict, which in turn was mediated by less locus of control experienced by this patient group. As hypothesized, women experienced less decisional conflict on the information domain. Interestingly, psychotic patients reported less decisional conflict on the dimension certainty. This might be explained by the often longer duration of treatment given by the same team of clinicians. On the one hand, this could have a positive influence on the working alliance and participation in decision making, and therefore might reduce decisional conflict. On the other hand, longer treatment duration could lead to more hospitalisation and a passive role of patients during treatment. As a consequence, patients possibly accept treatment decisions more easily or worry about compulsory treatment when not agreeing with the clinician, which both might lead to less reported decisional conflict. Interestingly, patients who have attained a higher education level reported significantly more decisional conflict on the dimension clarity of values. A possible explanation for this finding could be that higher educated people are better informed about choices in treatment and therefore have more insight in the complexity of the decisions, which might lead to more difficulty in obtaining clarity about own values. Other factors, i.e. age and treatment setting, were not associated with the level of decisional conflict experienced by patients. The suitability of the construct decisional conflict for assessing the quality of clinical decision making and the relatively high degree of decisional conflict among patients in specialist mental health care, indicate that there is room to improve the quality of clinical decision making.

Key findings Part II: The impact of the National Quality Collaborative on improving Shared Decision Making using ROM.

In this second part (**Chapters 4, 5, 6**) we described the results of the government sponsored National Quality Collaborative aiming to implement ROM in a SDM framework. The intervention teams implemented the SDM-ROM method in clinical practice with ROM tailored to the patient group as a personalised source of information. They followed a comprehensive National Quality Improvement programme, which consisted of national and local implementation methods

i.e. national conference days, training and booster sessions for exchange and learning, with experts and patient representatives present and local project and coaching sessions of the multidisciplinary intervention teams, to work on their own improvement plans and learning cycles (Plan-Do-Check-Act).

First, we examined whether the implementation of ROM in day-to-day practice was successful (**Chapter 4**). This study included a parallel group design with matched pairs of participating teams in which a cluster RCT was nested. The results were based on a survey about the 'actual use and perceived clinical utility of Routine Outcome Monitoring' completed by clinicians participating in the intervention and control teams, at the beginning and end of the Collaborative. In both the parallel group design and nested RCT, the intervention teams reported, compared to the control teams, much better results with large effect sizes on the actual use and perceived clinical utility of ROM. The results thus showed that the implementation of ROM in clinical practice was highly successful for the multidisciplinary intervention teams. All the three groups of participating clinicians i.e. physicians, psychologists, and nurses, took advantage of the ROM implementation. At the end of the Collaborative, all these disciplines showed a higher level in the actual use and perceived utility of ROM in clinical practice, with no significant differences between the types of clinicians.

Second, we investigated the effectiveness of the combined SDM with ROM approach in a Cluster Randomised Controlled Trial (RCT) (**Chapters 5 and 6**). To our knowledge, this was the first RCT which investigated the combination of SDM using ROM (SDMR) in specialist mental health care. As described in Figure 2, this SDMR approach comprises five steps in which the clinicians of the intervention group were trained i.e. 1) introduction of the choice(s), eliciting goals and exploring the roles of patients and their companions; 2) give meaning to ROM results; 3) explore options; 4) weigh options and 5) make a shared decision.

1. Introduction	<ul style="list-style-type: none"> ✓ Exchange expectations about the shared process in decision making. ✓ Discuss which role the patient prefers in decision making about treatment. ✓ Connect with patient's, values and goals. 'What does he/she intend to achieve in treatment?' ✓ Explain about ROM as a personalised source of information.
2. Give meaning to ROM and other sources of information	<ul style="list-style-type: none"> ✓ Discuss and give meaning to ROM outcomes following 4 steps: Recognize, Understand, Appreciate, Act. ✓ Utilize other sources of information (eHealth, websites etc..)
3. Explore options	<ul style="list-style-type: none"> ✓ Discuss options, advantages and disadvantages in a neutral way.
4. Weigh options	<ul style="list-style-type: none"> ✓ Weigh advantages and disadvantages: 'What's the most important for you?'
5. Shared Decision	<ul style="list-style-type: none"> ✓ Can a choice be made? ✓ Select together the most appropriate option. ✓ Make follow-up appointments.

Figure 2. Shared Decision Making using Routine Outcome Monitoring model.

In this RCT we compared SDMR with Decision Making As Usual (DMAU) and, as illustrated in Figure 3, hypothesized that SDMR: 1) diminishes patients' perception of decisional conflict, 2) improves the working alliance between patients and clinicians, 3) increases patient's adherence to treatment and 4) leads to better treatment outcomes.

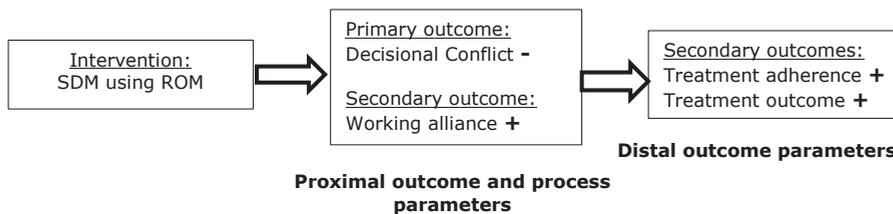


Figure 3. Initial model: the expected influence of SDM using ROM on primary and secondary outcomes.

Chapter 5 describes the SDMR intervention and study protocol. As illustrated in Figure 4, the results of the cluster RCT (Chapter 6) showed that in general no significant differences were found between the two arms on the primary outcome parameter patient reported decisional conflict and secondary outcomes working alliance, treatment adherence and treatment outcomes rated by patients. However, subgroup analyses revealed a positive effect of SDMR on decisional conflict for depressed patients, which means that the intervention works well for this patient group, whereas the intervention was not sufficient to improve the primary and secondary outcome parameters among the other diagnosis groups. Although, we originally expected that SDM

in specialist mental health care could be supported with a generic intervention, the results showed that probably the intervention was too generic for the variety of patients treated in specialist mental health care. In contrast to the patient's rated outcome parameters, clinicians in the intervention group reported a significantly better working alliance and experienced more agreement with the clinical decisions that were taken. Furthermore, in general, clinicians reported more positively on the outcome parameters than patients. The more positive ratings of clinicians could be explained by the fact that the intervention was focused on supporting clinicians in SDM. This might lead to more awareness in SDM among clinicians, whereas in this initiative patients were not directly supported in SDM. Therefore, patients were probably not yet used to their new role. Looking at the process parameters, both patients and clinicians in the intervention group reported a better use of ROM, whereas the SDM process, according to patients and clinicians, did not differ between the two arms. This indicated that the intervention leads to a better use of ROM in daily practice, however additional support might be necessary to improve the application of SDM by all patients and clinicians in the intervention group.

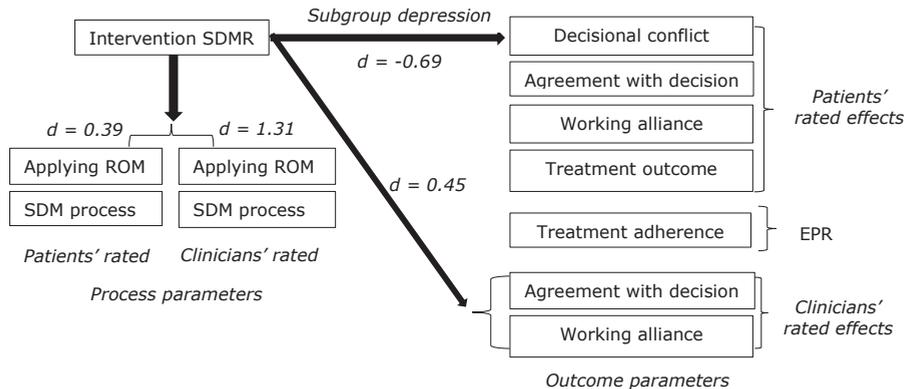


Figure 4. Effectiveness of SDMR: results from intention to treat analyses.

Taking the data of both arms together (Figure 5), a higher level of SDMR led to less decisional conflict, which in turn had a positive influence on treatment outcomes. Thus, if the SDMR method was applied well, it led to positive outcomes for patients. Overlooking everything, we can conclude that this generic SDMR intervention focused on supporting clinicians in SDM was not sufficient to reduce decisional conflict among patients and did not improve

the working alliance, treatment adherence and clinical outcome for the various patient group participating in this trial. However, the significant correlations between a higher level of applying SDM, reduced decisional conflict and better treatment outcome are promising. Therefore, further investments in the development, implementation and investigation of this approach in clinical practice are encouraged.

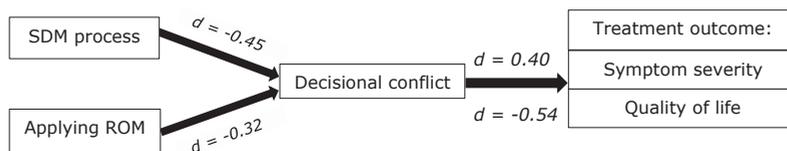


Figure 5. Associations between process and outcome parameters: results per protocol analyses.

Key findings Part III: The effectiveness of supporting Shared Decision Making using a multi-facetted blended eHealth intervention during intake: a regional initiative.

In addition to the National Collaborative focused on supporting clinicians in Shared Decision Making using ROM, GGz Breburg, a specialist mental health organisation situated in the southern part of the Netherlands, developed and implemented a multi-facetted blended eHealth intervention in the intake process and evaluated it in a Cluster Randomised Controlled Trial (**Chapters 7 and 8**). In this initiative both patients and clinicians were directly supported in SDM. This intervention, called SDM-Digital Intake (SDM-DI), consisted of a blended eHealth intervention integrated with the initial Routine Outcome Measurement (ROM), peer workers support and clinicians' training. As illustrated in Figure 6, it was hypothesized that, compared to the Intake As Usual (IAU), the SDM-DI intervention: 1) diminishes patients' perception of DC, 2) stimulates the SDM process, 3) fosters patients' participation, 4) enhances the working alliance between patients and clinicians, 5) leads to more treatment adherence, and 6) improves treatment outcome.

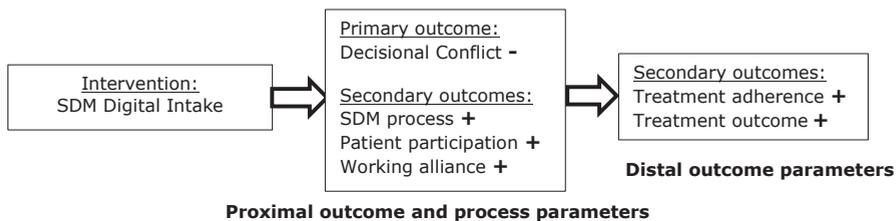


Figure 6. Initial model: the influence of SDM Digital Intake on primary and secondary outcomes.

The study protocol and intervention were described in **Chapter 7**. In **Chapter 8** we presented the results of this trial, which were also illustrated in Figure 7. No significant effect of the intervention was found on the primary outcome decisional conflict rated by patients. However, as hypothesized, two months after intake, patients in the intervention group reported a significantly better application of SDM and also more symptom reduction. The other secondary outcome parameters, patient participation, working alliance and treatment adherence did not differ between the two arms. Possible explanation for these findings might be that the implementation of SDM-DI succeeded partially, but was not yet sufficient to influence all the dependent outcome parameters. Probably, due to the training in SDM and attention for recovery focused treatment in the intervention arm, patients in the intervention group experienced a better SDM process and also reported a reduction of symptoms. Thus, although this intervention focused on both sides of the dyad, in this initiative the training of clinicians in the new way of working seemed to be more effective than the support given to patients. This means that a better and tailored facilitation of patients might be necessary to reduce decisional conflict and improve the working alliance and treatment adherence in the intervention group. Although the clinicians' rated outcome parameters did not differ between the two arms, clinicians scored, compared to patients, more positive on the application of SDM and experienced a higher level of agreement on decisions. This might be explained by the fact that clinicians were probably more conscious about the decisions which had to be made and therefore in general judge more positively about the decision making process.

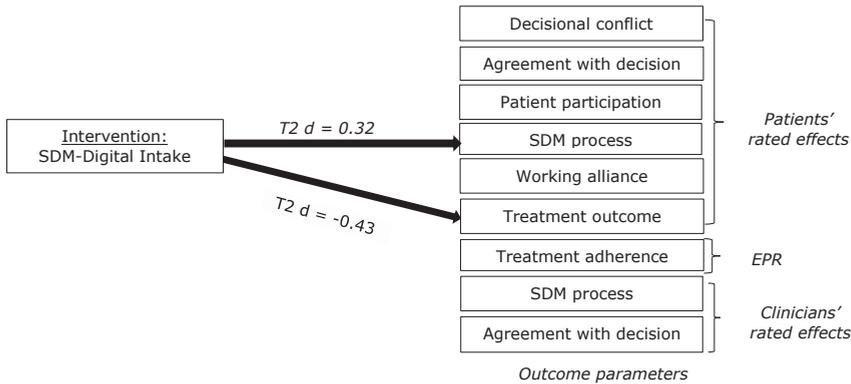


Figure 7. Effectiveness SDM-DI: Results intention to treat analyses.

Finally, as illustrated in Figure 8, per protocol analyses demonstrated that a higher level of SDM application was correlated with less decisional conflict, which in turn was associated with better treatment outcomes. These findings were in line with the results of the national RCT (**Chapter 6**) and underpin the importance of further investments in the implementation of SDM, especially in supporting patients in this relative new way of working.

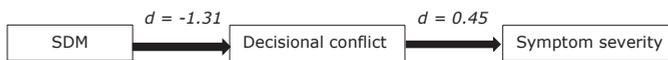


Figure 8. Associations between process and outcome parameters: results per protocol analyses.

Methodological issues

To examine the questions posed in this thesis, we combined several research methods, i.e. a review of literature, a cross-sectional study, a parallel group design and two RCT's at cluster level. The studies conducted in this thesis have their strengths, but also limitations, which should be taken into consideration when interpreting the results about the implementation and effectiveness of SDM using ROM and eHealth in specialist mental health care. Specific strengths and limitations were already presented at the end of each chapter of this thesis. The most relevant, overarching methodological issues are described in this section.

The most important strength of this thesis is that we had the opportunity to conduct two RCT's in everyday practice. The study protocols of these trials were

described comprehensively and published in international journals (**Chapters 4 and 6**). The randomised designs did enable us to compare SDM with Decision Making As Usual (DMAU). Firstly by investigating the effectiveness of SDM using ROM (SDMR) in a nationwide study, in which also the level of ROM implementation was evaluated. Secondly by examining the effects of a multi-faceted blended eHealth intervention supporting SDM during intake (SDM-DI) in a regional study. These studies were, as far as we know, the first RCT's investigating the combination of SDM either with ROM or with eHealth. Furthermore, these interventions were evaluated from both the patients' and clinicians' points of view by collecting data by self-report questionnaires rated by patients and clinicians as well. Although, the implemented intervention in the national study was focused on clinicians and did not target patients directly, in the regional initiative we intended to support clinicians and patients in SDM from the start of treatment.

In order to keep contamination between the experimental and control condition to a minimum, we conducted the randomisation procedure at cluster level between pairs of two similar teams. Strength of this matched-paired randomised design, applied in both RCT's, was that the risk of confounding was reduced. The pairs of similar teams belong to the same mental health organisation or department, consisted of similar disciplines of professionals and treated a similar population of patients in the same geographic area. As a consequence, in both RCT's no baseline differences in patients' and clinical characteristics were found between the two arms. Also, in both studies, the dropout rates between the conditions were not significantly different.

Another strength was that the studies were conducted in real world clinical practice among various patient groups treated in specialist mental health care. This enlarges the external validity of the studies and the generalizability of the findings to everyday clinical practice. In both RCT's, we merely had to exclude patients who did not speak and read the Dutch language and patients who were incapable to complete questionnaires because of cognitive functioning or an ongoing crisis. Patients who did not give written informed consent, and thus were unwilling to participate in this research, also did not participate in the study. Perhaps, some selection bias did arise, because the patient group who could not or did not want to participate might be less receptive to adopt SDM,

ROM and eHealth. Regarding the various patient groups who participated in our studies, the results of the nationwide studies are generalizable to the broad patient population treated in Dutch specialist mental health care and also to the clinicians working in this field. The regional study was representative for patients with mood, anxiety and personality disorders who are referred to specialist mental health care and the clinicians who performed the intake for these patient groups.

Furthermore, in both the national as well as the regional studies an independent data collection was performed, which implies coordination of the data collection by independent research assistants and measurement of the outcome parameters with mainly separate research instruments apart from treatment and the SDM intervention, which results were not visible at patient level in the electronic records. Strength of this approach is that it prevented socially desirable answers of patients and clinicians and reduced the chance of an undesired influence of the research team or clinicians on the results. In the regional study merely the regular ROM, which measures symptom severity, was used by patients and clinicians during intake and treatment.

Finally, in line with the a priori expected low cluster effects at team level, which was also the unit of randomisation, in both RCT's we even found no significant cluster effects at team level. This means that there was no evidence for clustering of the results between teams, which can be explained by the stratified randomisation designs (matched pair) between pairs of similar teams from one mental health organisation (national study) or department (regional study). However, at the level of clinicians we found significant cluster effects on the primary outcome i.e. in the national study an ICC of 0.2 and in the regional study an ICC of 0.1. These cluster effects may be caused by the nature of the intervention and the interaction between the level of SDM and the collaboration style, attitude and skills of the clinicians. Previous research among patients in mental health care showed the association of the patient-clinician working alliance on patient participation in decision making.¹⁻⁴ Patients even indicate that the quality of the relationship with their clinician is the most important component that influences SDM.^{3,4} Additionally, research on the implementation of ROM demonstrated the influence of clinicians' characteristics and attitudes on the level of clinical use of ROM feedback

in day-to-day practice.⁵⁻⁸ In fact, these associations were confirmed in our studies by the clustering of results found at clinicians' level. Therefore, we recommend to get more insight in the association of clinicians' characteristics and collaboration styles on the application of SDM. If we have more insight in these associations, we will be able to tailor future interventions to specific characteristics and needs of clinicians.

For a proper interpretation of our findings the following limitations should be taken into account.

Firstly, although decisional conflict is an useful construct to assess the quality of clinical decision making and the level of application of SDM in clinical practice, the scores on the decisional conflict scale are sometimes difficult to interpret because of the multi-dimensionality of this construct. In our studies the primary aim was to reduce the level of decisional conflict by applying SDM. In addition, we expected a positive influence of a lower level of decisional conflict on better treatment outcomes, which association was also found in our studies described in this thesis. However, when patients and clinicians have to make difficult decisions about treatment, it is common that, at least at the beginning of the decision making process, the level of experienced decisional conflict is high. This could be explained by feelings of uncertainty about which option would be the most suitable to choose. It is also possible that the five dimensions of the decisional conflict scale show different levels of experienced decisional conflict. For example, when patients feel well informed about the available options, but experience a high level of uncertainty about which option suits best to them. If the consideration between treatment options is complex, the level of decisional conflict on one of the subscales, for example the subdomain 'uncertainty', could remain high, even if SDM was applied well. Another possibility, found in our cross-sectional study and described in chapter 3, is that patients with a higher education who usually participate actively in clinical decision making, experience a relatively high level of decisional conflict on the subdomain 'having clarity about own values'. Taking into account the possible different scores on the dimensions of the decisional conflict scale, the association with patients' characteristics and in order to get a better understanding of the kind of experienced decisional conflict, we recommend to look per patient group at both the overall and five dimensions

of the decisional conflict scale. Therefore, in future intervention studies one should also formulate more specifically on which dimension(s) of the construct decisional conflict improvement would be expected.

Secondly, due to the nature of the intervention, in both RCT's clinicians were not blinded for the study arm. Therefore, there was a chance that clinicians, working in the control teams, made additional efforts to improve SDM. Another possibility was that there was contamination between the study arms. This means that clinicians participating in the control conditions picked-up elements of the increasing trend in applying SDM, ROM and eHealth, which were not only actual themes in the intervention teams but also in the entire mental health care field. These influences might have led to an underestimation of the effects found between the two arms, which could not be ruled out completely by the cluster randomised design at team level and the independent data collection.

Third, we did not know whether patients and clinicians continue with the application of SDM using ROM and eHealth after the study. We also did not examine the long term influence of the implementation of SDM on decisional conflict, patients adherence and treatment outcome. In future research it would be interesting to investigate these long term effects by follow-up evaluations during a longer period.

A fourth limitation is that, until now, we have limited insight into which kind of support fits with the preferences of patients and to what degree we should tailor the SDM intervention to the characteristics of patient groups. In this thesis, we conducted some initial explorative analyses to investigate the associations between patients' and clinical characteristics on decisional conflict and the effectiveness of the interventions. This gave us preliminary insights into the extent in which we have to take into account these characteristics in future initiatives. However, we need more explanatory data in order to better understand which intervention works for whom. We missed additional information about the association between the level of applying SDM and factors such as: patients' needs and preferences in SDM, user patterns of eHealth and the way they are helpful in SDM, type and stage of treatment and decisional topics. As described before, future research should also give more insight into the influence of clinicians' characteristics on SDM.

Finally, in both the national as the regional initiative the implementation of the new way of working was challenging. In the National Collaborative, facilitating the clinicians' side of the dyad, results showed that the implementation of ROM in clinical practice succeeded, whereas in this initiative the application of SDM was not yet implemented optimally. In the multi-faceted blended eHealth intervention, where both sides of the dyad were supported in SDM, the application of SDM in the intervention teams improved compared to the control group, but was still not sufficient to reduce DC in the intervention arm. Interestingly, the national SDM using ROM intervention showed significant effects for patients with mood disorders and works better for patients with a lower level of DC compared to patients who rated a higher level of DC. Therefore, one could argue that more intensive and tailored interventions and subsequently more implementation efforts in SDM should be needed to reach all patient groups in specialist mental health care, especially patients who experienced a higher level of DC. These investments are considered to be valuable, given the generally high levels of experienced DC among patients in specialist mental health care, and thus the existing room to reduce DC. Altogether, it seems that we succeeded partly in the uptake of the intervention on the clinicians' side of the dyad and less on the patients' side. It can be concluded that more efforts might be needed to support patients directly in SDM, and also to tailor the intervention to the needs and preferences of patients and clinicians.

Implications for clinical practice and research

Several implications for clinical practice and future research arise from these thesis. These implications comprise recommendations on three substantive areas:

- 1) Use of the construct decisional conflict in clinical practice and research;
- 2) further development and implementation of tools in order to foster SDM;
- 3) investments in future research.

The implications follow directly from the results of the studies belonging to this dissertation and are, where possible, substantiated with references to other research.

Use of the construct decisional conflict in clinical practice and research

In order to assess the quality of clinical decision making and the extent to which SDM is applied in clinical practice the multidimensional construct decisional conflict is valuable to use in research and day-to-day practice. When further implementing SDM, it is helpful to measure the process and outcome of clinical decision making on the five dimensions of the decisional conflict scale. It is also informative to take into account patients' characteristics which are influencing the level of decisional conflict on one or more dimensions of this construct. Patients treated in specialist mental health care generally experience a high level of decisional conflict, which is associated with a variety of patients' characteristics. These findings indicated that there is room to improve the engagement of patients in clinical decision making, especially among patients who experience the highest levels of decisional conflict i.e. patients with less internal locus of control and the primary diagnosis personality disorders. Patient(groups) who experience more decisional conflict on one or more dimensions should receive support in decision making about treatment. The type of support which would be needed, depends on which dimensions the decisional conflict scale scores high.⁹ For example, if patients report that knowledge is lacking, approaches are needed which target on obtaining more information about choices in treatment. If patients experience it as difficult to clarify personal values, exchange with other patients, who already made their decision, might be helpful. To feel more certain and encouraged in making the decision, discussing options and their pros and cons with companions and peer workers could be appropriate. Although decisional conflict is an useful construct to determine which interventions are appropriate to foster quality of the decision making, one could argue that it is not sufficient to merely take into consideration the level of decisional conflict. It is also important to look at the attitude of the patient towards SDM. In other words: Is the patient motivated to participate actively in decision making? And if not, what are the reasons why the patient hesitate to play an active role in this process? Therefore, as you can see in Figure 9, we recommend to use a combined model which gives insight into the level of experienced decisional conflict and motivation for participating in decision making as well. When the level of decisional conflict is high and the patient is motivated to participate actively in decision making, additional support in SDM is suitable. However, if the motivation for SDM seems to be low and the patient experiences a high level of decisional conflict, it would

be preferable to discuss the considerations of patients and their companions about SDM first. While discussing these considerations, it is important to explore together under which circumstances SDM might be appropriate for patients and their companions. Only if patients and their companions see the potential benefits of SDM and have an open attitude towards this approach, it would be valuable to support patients in their decision making role. In other words, it is recommended to encourage and support patients in clinical decision making in line with the roles they prefer. These role preferences in decision making are associated with the personality and experiences of patients, can vary over time and are also dependent of the topics of decision making.¹⁰⁻¹³ Therefore, discussing the role preferences of patients in decision making and asking about their motives why they sometimes are in doubt to participate in this process is an important step of the SDM approach.^{11,14}

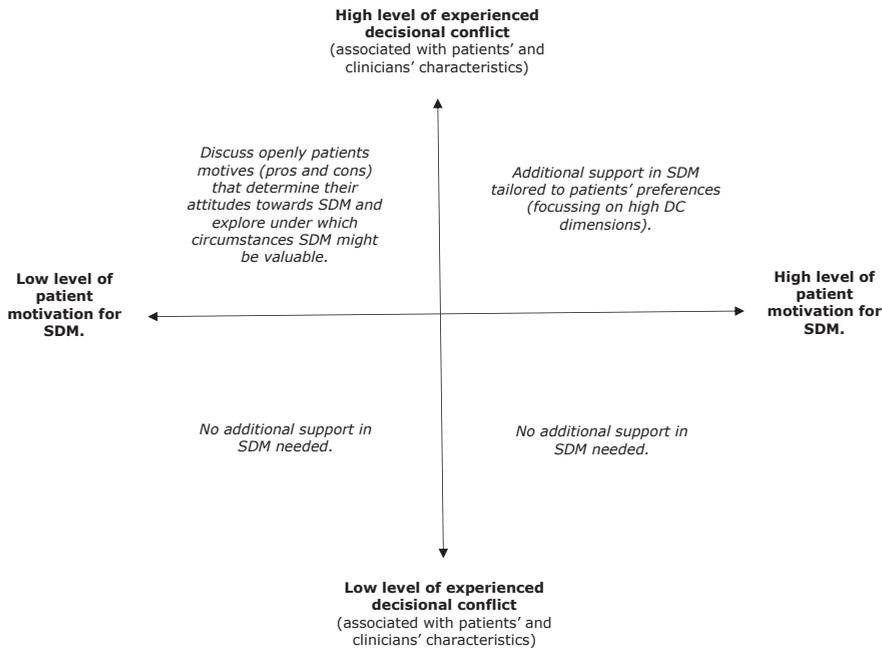


Figure 9. A combined model of decisional conflict and motivation for SDM

Further development and implementation of tools in order to foster SDM

Regarding the relatively high levels of decisional conflict experienced by patients treated in specialist mental health care and the positive association

between the level of applying SDM with reduced decisional conflict, which in turn leads to improved treatment outcomes, we recommend to further invest in the development and implementation of the SDM approach in clinical practice. Aim of these investments is to bridge the gap between the promising evidence on SDM and the lagging daily practice. Because SDM requires a new way of working for both patients and clinicians, it is important to support both sides of the dyad in SDM.^{10,11,15-21} To facilitate the clinicians' side of the dyad education and training in knowledge, skills and attitudes on SDM should be embedded in educational programs for psychiatrists, psychologists and nurses.²² Another recommendation is that, in order to exchange experiences and best practices in SDM using ROM and eHealth between clinicians, regular team meetings should be organised. These team meetings for exchange and learning are necessary because we found that the level of applying SDM differs between clinicians, whereas all clinicians should be capable to guide patients well while making decisions about their treatment, which regularly occur in situations that are emotionally charged and therefore can evoke feelings of uncertainty. This thesis also pointed out that a generic training was partially effective in influencing the clinicians' attitudes and skills in applying SDM. Regarding the cluster effects on the clinicians' level, it would be probably more effective to focus future training and coaching sessions on clinicians for whom it is less natural to applicate SDM using ROM and eHealth and thus to tailor these trainings and coaching sessions to the needs of these clinicians. Although, it is not sufficient to merely facilitate clinicians in SDM, in our initiatives we most invested in supporting the clinicians' side of the dyad. To prepare the variety of patients treated in mental health care for their active role in clinical decision making and in order to give them greater confidence in decisional involvement, more intensive and personalised support on the patients' side of the dyad is necessary, i.e. more flexible, personalized (peer) support, training and better introduced (digital) tools such as decision aids or modules aimed to prepare consultations.^{10,11,18,19,21-24} Integration of eHealth and ROM as personalised tools for patients²⁵⁻²⁸ for example in a personal health environment are also considered as valuable in order to improve the dialogue between patients and clinicians, while setting and evaluating treatment goals and discussing choices in treatment.

In short, better tailored interventions in order to facilitate both clinicians and patients in SDM are recommended. Especially, for patients and their companions more intensive and personalised support in SDM is needed, which should be in line with their preferred role in decision making about treatment. These preferences differ for the variety of patients and depend on their personality, experiences, their health problems and the course of their recovery.¹⁰⁻¹³

Finally, one could argue that implementing SDM using ROM and eHealth as a relative new way of working in clinical practice is a challenging process, especially because changes are needed in daily routines, skills and attitudes of clinicians and patients.^{10,11,13,17,19} Regarding the successful ROM implementation described in this dissertation and according to a review of Nadeem et al (2013)²⁹, the Quality Improvement Collaborative (QIC) implementation strategy can facilitate such complex processes targeting to bridge the gap between the promising evidence and lagging implementation in day-to-day practice. Because, in our national initiative the QIC implementation strategy was mostly used to implement ROM in day-to-day practice, we think useful elements of this strategy could be more broadly applied in order to foster SDM and eHealth in clinical practice i.e.: the bottom up approach with multidisciplinary improvement teams which develop and implement their own action plans with measurable targets, exchange of ideas and experiences between teams working on equal improvements, training and learning sessions for participants, advice of experts, monitoring of team targets and feedback loops in order to further improve the implementation.

Future research:

Several recommendations for further research arise from this thesis. First, it is important to gain additional insight in patients' characteristics which are associated with the degree of SDM and the level of experienced decisional conflict among patients.^{22,30} When using decisional conflict in future research, we recommend to take into account the multi-dimensionality of this construct. Second, further research would be needed to explore the working mechanism of SDM^{15,23}, especially on the patients' side of the dyad. Aim of this exploration is to get a better understanding of situations in which generic support in SDM for a broad patient group is adequate and when specific tools, tailored to patient groups and their needs for support in decision making about

treatment, are needed^{8,20,22}. Third, more research is necessary in order to gain insight in the implementation and working mechanism of eHealth, thus whether, how and when eHealth works for whom and how eHealth can foster SDM in the intake and treatment process as well.^{26,31-33} Next, it is relevant to analyse the influence of clinicians' characteristics and collaboration styles on the application of SDM and the use of ROM and eHealth.^{5,7,8,10,22} If we have more insight in these associations, we will be better able to tailor future interventions to the needs of the clinicians for whom it is not yet natural to apply SDM. When implementing interventions tailored to the needs of specific groups of clinicians and patients²², we also recommend to further investigate the way of working and effectiveness of these tailored interventions for specific groups of patients and clinicians, both via qualitative studies and rigorous randomised designs with multiple intervention conditions. Finally until now, we did not know whether patients and clinicians continue with the application of SDM using ROM and eHealth after the study. We also have limited insight in the cost effectiveness of SDM in clinical practice.^{34,35} Therefore, in future research we suggest to obtain more information on the long term effects of SDM using ROM and eHealth in mental health care³⁶ and investigate its cost-effectiveness. For example by looking at time investments in relation to treatment duration, possible choices for (less intensive) treatment and the effects on treatment outcomes.

Concluding remarks

The studies in this thesis demonstrate that, if SDM using ROM and eHealth are properly applied, this approach is valuable regarding the positive influence on reduced decisional conflict, which is a useful multidimensional construct for evaluating clinical decision making. We also found that less decisional conflict leads to better treatment outcomes. Furthermore, it can be concluded that the national collaborative aimed to implement SDM using ROM, which focused on supporting the clinicians' side of the dyad, led to a better clinical use of ROM. However, the nationwide SDM using ROM intervention was not sufficient to improve the application of SDM in the intervention arm. In the national RCT only for the subgroup patients with the primary diagnosis depression a positive effect of the intervention on decisional conflict was

found. Unfortunately, we did not find positive effects of the intervention for all patient groups. Because applying SDM requires another way of working for both clinicians and patients, more intensive and tailored interventions at both sides of the dyad are recommended. In the regional multi-faceted blended eHealth initiative implemented in the intake process, we started with investments in both sides of the dyad. This resulted in a higher level of SDM and better treatment outcomes in favour of the intervention arm, but did not lead to less experienced decisional conflict among patients participating in the intervention condition. Because, in general we most invested in facilitating clinicians in the application of SDM, especially more efforts are needed in order to support patients directly in decision making about treatment. Additionally, the characteristics of both clinicians and patients, patients' role preferences and collaboration styles of clinicians have a major impact on the level of applying SDM, whereas we still have limited insight in these influences. Therefore, further development, implementation and research on interventions tailored to specific characteristics, preferences and needs of patients and clinicians are recommended in order to bring SDM in clinical practice to a higher level.

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