Author's response to reviews

Title: Needs and barriers to improve the cooperation in oral anticoagulant therapy by chronic care model elements: a qualitative study.

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Author's response to reviews: see over
Dear editor,

Thank you for considering our manuscript for publication in *BMC cardiovascular disorder*. Also on behalf of my co-authors, I hereby submit our *revised* manuscript ‘Needs and barriers to improve the collaboration in oral anticoagulant therapy: a qualitative study’ for publication in your journal. We like to thank the reviewer for her valuable comments and we have revised the manuscript and title accordingly.

The reviewer addressed three important points which we addressed to strengthen our manuscript. First, the additional value of our manuscript to the literature was not yet clear enough. In our opinion our study’s findings are of additional value as this is the first study focusing on collaboration for OAT. Our results reveal that professionals indeed experience a reduced quality of OAT due to a lack of collaboration. Moreover, this study illustrates how quality of care is affected by a lack of collaboration; not only the patient outcomes but also patient experiences and efficiency of the care process were hampered. In addition, this study explored which mechanism existed in improving collaboration. Many professionals tried to improve collaboration, yet with limited success. Our study gives insight in the possible causes of this limited success. Not only suggestions for improvement like shared information systems and informal contacts are identified, but this study also shows that the implementation sequence of implementing the proposed improvements is crucial. Most important barriers, lack of non-AC professionals’ motivation and lack of time, elicited the need to establish alignment regarding collaboration with all involved professionals. Therefore we revised the manuscript thoroughly to address the additional value more explicit.

The second point of concern, the complexity of study results, is dealt with by clarifying our results and formulating the lessons learned more specifically.

The third point of the reviewer, about the chosen methodology, is addressed as far as in line with our research goal. We have positioned the applied Chronic Care Model (CCM) less prominently as suggested by the reviewer. However, we did not replace this model by another model as the CCM model gave the opportunity to categorize the proposed solutions to the four components that are identified to improve chronic care that includes the improvement of collaboration. By applying the CCM model it becomes clear that the role of the health care organization is underestimated when it comes to improving collaboration and that the sequence of implementing the CCM components should be taken into account as well.

In our opinion we addressed the important and valuable points made by the reviewer and we think that these changes have improved the paper considerably. We thank both the reviewer and the editor for their efforts and for the opportunity to publish in *BMC cardiovascular disorder*.

We look forward to your response.

Yours sincerely,

Hanneke Drewes
Comment 1:
As mentioned in the first review the study findings are potentially interesting. However, I am not convinced that this version of the manuscript adds to the literature.

Response to comment 1:
We are pleased to read that our study findings are potentially interesting and regret that our additional value was not made clear enough in our previous version of the manuscript. As collaboration in OAT is crucial but has not been studied before, we think that our results are of interest for all professionals working with patients using OAT.

In order to be more clearly about the additional value of our manuscript to the literature, we have revised our introduction and discussion. In addition to previous published studies, we showed that the quality of care is limited by restricted collaboration. To our knowledge, we are the first to identify limitations in collaboration, proposed solutions as well as barriers that are experienced to improve the collaboration in OAT. Moreover, our study shows that previous efforts made by professionals to improve the collaboration were frequently unsuccessful since the implementation sequence and/or identified barriers were not taken into account.

Comment 2:
I made some recommendations regarding the methodology (framework approach, choice of frameworks for analysis of the results) and the way the results are reported (best practices, lessons learned) in the first review process. On the whole, I am only moderately satisfied with the responses of the authors. No fundamental changes are made. E.g., the results remain difficult to read (bottlenecks, experienced, expected, barriers) and the lessons learned remain too general. One could probably learn more from an analysis of the results of ‘the best /the worst’ performing ACs and the way they organise collaboration.

Response to comment 2:
We are sorry to read that the reviewer was only moderately satisfied with our response. We have made additional changes to the manuscript to meet the comments of the reviewer as good as possible. We have made the manuscript more readable by reporting more clearly about expected and experienced barriers. Hence, the barriers sections are simplified. In addition, we have rephrased sentences and excluded irrelevant details to prevent information overload. Furthermore, we have positioned the CCM less prominent. We excluded the CCM from the introduction and positioned it more clearly as a framework to categorize our results. The considerations regarding the CCM as framework for collaboration are further outlined below comment 4.

Although we acknowledge the value of other implementation models such as Grol’s model, we have not applied another model to identify the barriers. All implementation models have its pros and cons and we feel that there is not one superior model. By using Cabana’s model we were able to identify the importance of the implementation sequence which was previously not taken into account in OAT successfully. For instance, shared patient files and protocols were introduced but did not improve collaboration for OAT.

Although we understand the additional value of good/less performing practices, this methodology was not in line with our research objective and therefore we are not able to perform such an analysis. We aimed to gain a comprehensive view of the experienced bottlenecks and mechanism to improve collaboration. As implementation is influenced by the setting and because of that not one successful method to improve collaboration can be identified (Grol et al., 2010), we sampled a broad range of ACs to get a complete overview. Consequently we have not made a selection based on the best/worst case scenarios and therefore the data are not appropriate to report our results as suggested. Our results should make professionals aware of the bottlenecks, inspire professionals to improve collaboration by the proposed solutions, and give insight in the potential barriers to implement the proposed solutions.
In further research an analysis of good/less performing practices should be addressed. We added this to the discussion

**Comment 3:**
Currently the link between the study findings and the opportunities for quality improvement are too vague (next step in quality improvement).

**Response to comment 3:**
We have rephrased our conclusions and we hope that we have made the link between our study findings and opportunities for quality improvement more concrete.

**Comment 4:**
Furthermore, more reflection is needed about the use of the Chronic Care Model (CCM) as a framework for quality improvement of a service for people taking OAT. The main focus of the model is on integration of care for people with chronic conditions in the setting where they receive their regular care (mostly general practice). High quality collaboration with other services, as anticoagulant clinics (e.g. COPD patient or diabetes patient with OAT), are part of the way care is organised and delivered. Perhaps this point can be cleared out with one of the authors of the CCM or with other experts familiar with the CCM.

**Response to comment 4:**
As advised, we have discussed our methodology with Prof. dr. H.J.M. Vrijhoef. Last year, Professor Vrijhoef worked together with Ed Wagner and he is the Dutch expert regarding CCM. He was convinced that the CCM was of additional value for this study. However, he could imagine the hesitancy described by the reviewer which should be encountered by improving the background of the CCM in the methods and discussion.

Vrijhoef explained that the CCM was originally focused on the primary care in the USA. However, this should be seen in relation to the USA health care system. The USA health care system is characterized by a restricted or nihil primary care. Ed Wagner originally developed this model to intensify primary care. However, the CCM was also applied in countries with stronger developed primary care systems, like the Netherlands, Denmark, and England. The CCM is in these countries focused less on strengthening the primary care and more on the integration and improvement of chronic care services (irrespective primary and secondary care practices). The experiences in these countries show that the model can be applied in various chronic care settings. The model is not static, yet only identified essential components for chronic care management which includes collaboration.

Nevertheless, Vrijhoef could understand the reviewer’s hesitancy expressed regarding the application of CCM since it is a broad model that not only focuses on collaboration. However, this is also the strength of this model; it takes the multifactorial character of collaboration into account. In addition, in contrast to many collaboration models, this model gives the opportunity to structure the proposed solutions to the identified levels for improvement to which it is applied in daily care practice. For instance, informal contacts refer to the level of the health care organization and the division of tasks refers to delivery system design. We have included additional background for the CCM in the introduction. As suggested by Vrijhoef, we have also made the link between OAT and chronic care more clear in the introduction and methods. In addition, we have included more reflection regarding the CCM in the limitation section.

By applying the CCM in improving the collaboration, additional insight was provided in the worldwide frequently applied improvement model. First, the implementation sequence of applying CCM components seemed to be essential, which was not yet acknowledged explicitly. Second, the potential of one of the components, the health care organization, was underestimated and should be considered
more by professionals to improve collaboration. These mechanisms are probably not only of interest for OAT but also for other chronic care services such as chronic care provided for people with heart failure.

**Level of interest:** An article of insufficient interest to warrant publication in a scientific/medical journal

*Comment to level of interest:*
The reviewer acknowledges that the results are interesting but she disagrees on the form in which the results are theoretically structured. This might be caused by the complexity of our original introduction, methods and results. For that reason, we simplified our introduction and focused less prominently on the CCM. However, we still used the theoretical structure as originally proposed because these are of additional value as is confirmed by Prof. dr. Vrijhoef.