Author’s response to reviews

Title: An integrated primary care approach for frail community-dwelling older persons: A step forward in improving the quality of care

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Editor Comments:

Interesting study but needs major improvement.

Why are you intending to conduct the study? - rationale of the study should be enriched.

We clarified that the rationale of the study was aimed to increase our knowledge about CCM implementation for frail older persons in the primary care setting and to assess the quality of proactive, integrated primary care. We thus comparatively assessed a proactive, integrated care program and usual primary care for community-living frail older persons. Our first objective was to examine the implementation of interventions in the six areas of system redesign proposed by the CCM, i.e., linkages to community resources, organization of healthcare, self-management support, delivery system design, decision support, and clinical information systems. We assessed the congruency of primary care with (elements of) the CCM in the practices of GPs who implemented a proactive, integrated care program and those delivering usual primary care. Second, we aimed to investigate the quality of primary care as perceived by healthcare professionals involved in care delivery in these settings.

Method section needs major improvement - as reviewers are highly concerned.

We changed the methods section based on the concerns described by both reviewers.

Qualitative method - trustworthiness? Please add more information here.

We added information about trustworthiness.
Discussion: method discussion needs significant improvement.

We changed the methods discussion based on the concerns described by both reviewers.

Finally what is your 'take-away' message?

Our take away message is that the present study showed the FFF approach can have positive effects on the quality of primary care delivery to frail older persons, as perceived by healthcare professionals. In times of population aging and increased pressures on primary healthcare systems, proactive integrated care delivery for community-dwelling frail older persons, such as that based on the FFF approach, can be introduced to improve the perceived quality of primary care.

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Reviewer reports:

Gregory Stevens (Reviewer 1): This is a very interesting study looking at practice changes to improve health care delivery for frail, older adults. I think there is a lot to learn from this work, especially considering that it combines both qualitative and quantitative data in ways that help us understand lessons for other providers (and health systems). I have a few questions and suggestions that the authors may wish to consider:

1. How were the GP practices identified and enrolled into the intervention vs. control groups? This may matter if the GP practices undergoing the intervention are particularly motivated to change their practice in some way (compared to the control group), then the results you observe the study may not be broadly applicable to GP practices more broadly.

We followed the reviewer’s advice and clarified that GP practices were considered to be eligible for participation in the intervention group of the study if they recently implemented the FFF approach and were not involved in other research projects. GP practices were considered eligible for participation in the control groups if they were not engaged in proactively screening for frailty among their older patient population yet. In addition, GP practices that already follow-up older persons in a systematic way were not considered to be eligible to participate as control...
practices. We approached 17 GP practices for participation in this study (12 intervention practices and 5 control practices). In total, 11 GP practices that implemented the FFF approach (intervention group) and 4 GP practices that provided primary care as usual (control group) participated in the evaluation.

2. The measure used to assess "quality of primary care" is arguably more of a measure to assess chronic disease care. The authors may wish to rephrase unless they feel the ACIC is representative of primary care. For example, Starfield and colleagues have defined the practice of primary care, only some of which overlaps with the ACIC model per se. And efforts to measure primary care have been completed in much more detailed ways in the past, including my own work. The authors may wish to point out the differences between their quality measure and the work of others. See the following as examples:

https://www.ncbi.nlm.nih.gov/pubmed/19569570

We thank the reviewer for these interesting papers. Based on (our) earlier work we do believe that this instrument captures important elements assessing the quality of primary care.

In 2010 Stange and colleagues, for example, provided a nice overview of measures of Primary Care Functions and PCMH Components in their article “Defining and Measuring the Patient-Centered Medical Home”:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2869425/pdf/11606_2010_Article_1291.pdf

According to them the ACIC was one of the instruments to assess quality of care in the PCMHs. So we agree with the reviewer that the PCAS, PCAT, and ACES are interesting instruments to assess Primary Care Functions and PCMH Components, but the ACIC does that as well. Still, using a different instrument may have led to different findings. We added the following text to our study limitations: “Finally, we measured quality of primary care using the ACIC-S instrument, which earlier research shows is one of the available instruments which can be used to assess quality of primary care [36]. The ACIC-S measures the six dimensions of the chronic care model (community, the health system, self-management support, delivery system design, decision support and clinical information systems) which are needed to support frail older people and people with chronic diseases in the primary care setting. Others defined primary care by four main characteristics: comprehensive, coordinated, continuous, and accessible care [37] and identified the Primary Care Assessment Tool (PCAT) as the best available instrument to assess such primary care features. Although both instruments clearly measure overlapping concepts and
are both used regularly to assess quality of primary care [36] use of other instruments, however, may have yielded other findings.”.

3. Table 3 is helpful for understanding the differences between groups at baseline and at follow-up. The authors may wish to consider comparing the "change" from baseline to follow-up rather than just comparing the difference at baseline between groups and the difference again at follow-up between groups. And importantly, it might be good to limit your current analyses (and any analysis of "change") to those who completed both baseline and follow-up survey. The reason is that the addition of new respondents may be creating the appearance of a change; for example, is there reason to be suspect of scores (in Table 3) for the control group that appear to have declined from baseline to follow-up (e.g., self-management support went from 5.47 to 4.80; and decision support decreased from 5.07 to 3.98.; and clinical information systems declined from 6.18 to 4.95). Could the reason be the additional of 5 additional respondents in the T1 control group?

We agree with the reviewer that this is interesting. Given the relatively low number of respondents, especially in the control groups such analyses become less reliable (n ranging from 13 to 15 respondents). Therefore we choose to include the information that we do have and not leave anything out. We did check the results without the 5 additional respondents in the control group at T1, but this revealed the same picture. Also paired analyses revealed similar findings. We added this information to the revised manuscript.

4. The authors may want to be cautious about concluding that "care congruent with the CCM improved quality of primary care". There is nothing in the data, I believe, that firmly demonstrates causality. Better to phrase as "care congruent with the CCM is associated with better quality of primary care".

We agree with the reviewer and rephrased accordingly.

5. Are there unique circumstances of the health care system in Netherlands that allows this primary care model to be successful? For example, is there incentive for the providers to reach out to patients (e.g., and identify frailty) in the community or be otherwise proactive in this way? Are there reimbursements for this, or savings that accrue to providers or the system?

In the autumn of 2014, GP practices in the intervention group had already begun to implement elements of the FFF approach, and the majority of practices received financing for these measures via reimbursement regulations related to primary care for frail older patients. As a
result of these national transformations in the primary healthcare sector in the Netherland and financial incentives for care for older people, the control GP practices were also in the process of implementing several interventions, such as medication reviews, systematic follow-up of older patients, and meetings of professionals from different disciplines to exchange information. We clarified this in the text.

Di Xue (Reviewer 2):

1. As my understanding, primary care with (elements of) the CCM in the practices of GPs who implemented a proactive, integrated care program in the study was referred to the "Finding and Follow-up of Frail older persons" (FFF) program. Could the description about the intervention group be clearer and directly in last two paragraphs of the background section?

An important aim of this study was to provide a rich description of the approach. This resulted in Table 1 showing the interventions implemented in the intervention and control GP practices. The FFF approach is described as follows: In the present study, we evaluated the “Finding and Follow-up of Frail older persons” (FFF) program, which aims to improve the quality of care and well-being of frail community-dwelling persons aged 75 years and older. The proactive FFF approach to integrated care was implemented in several GP practices in the western part of North Brabant Province, the Netherlands, to effectively redesign the fragmented and reactive primary care system. Its ultimate goals are to meet the long-term, complex healthcare needs and preferences of frail older adults and to improve their well-being. The FFF approach combines multiple interrelated and promising components that are assumed to encourage the provision of high-quality integrated primary care to frail older persons, such as proactive case finding, case management, medication review, self-management support, and multidisciplinary teamwork. These interrelated key components are combined in a comprehensive integrated primary care approach which is expected to improve quality of primary care, and ultimately to influence older patients’ well-being. While GPs aim to include proactive case finding, case management, medication review, self-management support, and multidisciplinary teamwork actual care delivery may be different. Therefore we wanted to clearly map everything going on in these practices when it comes to quality of integrated care. Furthermore, we added information regarding the FFF approach to the background section.

2. In the section of methods, the indicators that were used to describe or analyze the data quantitatively were not stated.
We are not sure what the reviewer means. We mention in the Methods section that healthcare professionals were asked to complete the Assessment of Chronic Illness Care Short version (ACIC-S) [27]. This comprehensive instrument focuses on the organization of healthcare, rather than conventional outcome measures or process indicators [28]. The ACIC-S is based on the six areas of system change advocated by the CCM to affect the quality of healthcare: linkages to community resources, organization of healthcare, self-management support, delivery system design, decision support, and clinical information systems [17-19, 22]. The questionnaire is composed of three items per area, which represent a continuum from poor to optimal organization and support of CCM-based care delivery. Participants were asked to indicate the degree of implementation of each component on a four-point scale ranging from “little or no implementation” to “fully implemented.” For example, for the “linkages to community resources” area, little or no implementation suggests that partnerships with community organizations do not exist and full implementation is in place when such partnerships are actively sought to develop formal supportive programs and policies throughout the entire system. Within each of the four levels of implementation, participants were asked to rate the degree to which the description applied on a three-point scale. The resulting scale ranged from 0 to 11, with categories defined as little or no support (0–2), basic or intermediate support (3–5), advanced support (6–8), and optimal or comprehensive integrated care (9–11) [27, 28]. We derived subscale scores for individual CCM dimensions by calculating the average of the three item scores. Subscale scores were derived when responses for at least two of the three items were available. Total scores were calculated by averaging subscale scores when at least four of six such scores were available. Cronbach’s alpha values for the ACIC-S were 0.90 at T0 and 0.93 at T1.

3. The first paragraph of the results should be merged to the section of methods or just be omitted.

As suggested by the reviewer we removed the first paragraph from the text.

4. The sub-heading of the paper should be shorter, such as "Implementation of interventions falling under CCM dimensions in intervention and control GP practices".

We shortened the sub-heading.

5. In the results, when authors stated that "On average, more interventions that were in line with the CCM were implemented in intervention than in control GP practices (n = 33 (range, 23-
42) vs. n = 23 (range, 14-33)). This difference was significant." But there were no statistical tests conducted or showed in the table. Similar issues exist too.

We aggregated the number of interventions implemented in each health care practice to the health care practice and then conducted a t-test to identify if the difference was significant based on an n of 15 (11 intervention practices and 4 control practices). We added this to the text.

6. The baseline characteristics of healthcare professionals in the intervention and control groups should be put in table 2 and be described briefly.

We are not sure what the reviewer means, we report baseline characteristics of healthcare professionals in the intervention and control groups. Do you mean the description guiding that table should be shortened? If so, we will be happy to do that. If not, then please describe more clearly what you wish to be changed.

7. When the author stated that "The number of interventions implemented was associated positively with ACIC-S scores at T1 (r = 0.56, p < 0.05)" , how many paired data were used in the study? Did one person represent one institution that implemented primary care differently?

We clarified that we aggregated the number of interventions implemented to the health care practice level. These interventions came from intensive interviews using a template based on the six areas of system redesign proposed in the CCM [17-19, 22].

8. More sub-headings were needed to make your discussion points clearer.

As suggested by the reviewer we included subheadings to help guide the reader better.