PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	A scoping review to identify strategies and interventions improving interprofessional collaboration and integration in primary care
AUTHORS	Sirimsi, Muhammed Mustafa; De Loof, Hans; Van den Broeck, Kris; De Vliegher, Kristel; Pype, Peter; Remmen, Roy; van Bogaert, Peter

VERSION 1 – REVIEW

REVIEWER	Anna Jansana Hospital del Mar Institute for Medical Research, Department of Epidemiology and Evaluation
REVIEW RETURNED	04-Mar-2022

GENERAL COMMENTS	I find this manuscript very pertinent taking into account the current fragmentation of care and the lack of multidisplinary approach to chronic disease. Moreover, many health organizations and professionals usually are focused on one single disease and this manucript highlights the need to inter-disease approach and learning from other displines. Saying that, some points could be improved: Introduction: - In the second paragraph of the introduction perhaps the authors could include how coordinated care can be measures. They explain 5 keypoints but they sound very theorical and difficult to apply to everyday clinical practice. Maybe explain existing scores to measure it, other papers results or experiences... - In the introduction section I would appreciate to have a justification on what interdisciplinar care and coordinated care can add. Ex: prevent worsening of health status, improve treatment adherence.... Methods: - Regarding study selection: I find the publication period quite wide (2001-2020). Mainly because of lifestyle habits, specially in terms of digital revolution. - One of the exclusion criteria was 'study focused on a single disease or group of patients/clients'. I find that this could exclude some interesting interventions even tough they are focused on a single disease as this does not exclude coordination mechanisms. Could the authors explain a bit more this exclusion criteria? Results: - Regarding acceptance and team readiness: how was this measured in the studies? - Communication strategies: authors report that informal meetings were quite common. Are this informal communication strategies currently reported in the medical records? In case is not maybe comment on the discussion the importance of reporting this mechanisms in order to avoid understimation.

	Discussion: - Within the discussion section I missed examples of successful coordination mechanisms and how they were measured. The problem with this interventions is that are not currently evaluated and often are left at second point when actually are essential to ensure a proper management of chronic diseases. - Within the limitations sections perhaps authors could include that most of the studies were qualitative and its implications on the results. Other points to be taken into account: - Quality assessment is missing. One example is to present the results of ROBINS tool. - Within the current worldwide situation would be a good idea to include how the digital revolution and ehealth tools have been helping and contributing (specially in the last 2 years). I will affect and many new tools are appering nowadays and research and health services organizations need to take them into account.

REVIEWER	Elizabeth Alvarez McMaster University, Health Research Methods, Evidence and Impact
REVIEW RETURNED	15-Mar-2022

GENERAL COMMENTS	Dear Authors, Thank you for this interesting and timely manuscript on strategies and interventions for improving interprofessional collaboration and integration in primary care. It is well written and easy to read and understand. There are a few comments and suggestions for further clarity. General comment: Abstract and methods – why did you only include English articles? Given your affiliations, there may have been some interesting research on integration in other languages. While recognizing the need for different search terms if another language is used fully, this may have been interesting to compare. Specific suggestions: Page 4, first line – "…Bardet et al. identified the following five key elements….," but I only see 4 listed. Please clarify. Page 4, first paragraph, last sentence – "These key elements match with the five dimensions of integrated care described by Valentijn et al." – Do they match exactly? If not exactly, please list their five dimensions so the reader can compare. Table 1 – why are Numbers 2 and 3, 21 and 22, and 24 and 25 the same? Tables 2 and 3 – for your consideration, since the title and journal are provided in the references, perhaps combine tables 2 and 3 to decrease redundancy and to link the information from the studies together. Some of the author columns of Table 2 have dates as well, these can be removed in this column. If you have Author, Year, Country, study design as high-level entries (i.e., qualitative case study, Survey, Mixed methods), and intervention/strategy these tables could be combined and more detailed information could be provided in an appendix, if needed. Otherwise, the references and a table may be sufficient. It may be useful to include outcomes measured in the table as this is mentioned in your methods and results. It would be interesting to know how people measure collaboration, for example. Page 12 - Findings, theme 2, first paragraph – even though "safe

	team" and "safety" are included here, there is no description of these terms until the discussion. This safety seems to relate to psychological safety but could just as well fit personal or physical safety as currently described in the findings section. Maybe add a bit of clarification here of psychological safety as described by the studies. Page 13 - Findings, theme 4, second paragraph – what are "circulatory and transitional spaces"? Page 13 - Findings, theme 5 – Perhaps clarify whether these are formal, informal or both types of caregivers. At times, I am thinking this includes family or other caregivers, but at other times I am wondering if it is discussing healthcare workers. In the discussion, it is a bit more clarified, but not entirely clear throughout since it is never defined. Thank you for allowing me to review your manuscript!

VERSION 1 – AUTHOR RESPONSE

	Comments from reviewers	Response	Changes in the manuscript
Reviewer 1			
	- In the second paragraph of the introduction perhaps the authors could include how coordinated care can be measured. They explain 5 keypoints but they sound very theoretical and difficult to apply to everyday clinical practice. Maybe explain existing scores to measure it, other papers results or experiences...	Thank you for this remark. Although the key elements are not directly linked to measuring coordinated care, there are some existing instruments, such as AITCS to measure coordination between care providers.	Introduction, page 3, lines 90-93. We changed the following sentences: To measure the collaboration and coordination of these formal and informal caregivers many questionnaires are available.[14] The assessment of interprofessional team collaboration scale (AITCS) is an example consisting of the subscales; partnership, cooperation and coordination, and can be deployed in primary healthcare.[15]
	- In the introduction section I would appreciate having a justification on what interdisciplinary care and coordinated care can add. Ex: prevent worsening of health status, improve treatment adherence....	We appreciate your feedback. There are indeed many advantages that come with working interprofessional and interdisciplinary in a well-coordinated way.	Introduction. Page 3. Lines: 100-102. We added the following sentences: Integrated care and quality collaboration between professionals leads to improved access to care [26], better health outcomes [27], and enhanced prevention.[28, 29]
	- Regarding study selection: I find the publication period quite wide (2001-2020). Mainly because of lifestyle habits, especially in terms	Thank you for this remark. Our aim was to determine strategies and interventions between 2001-2020 to capture the possible	No changes have been made.

	of digital revolution.	benefits of the combination of ‘older’ with more recent interventions in the scope of todays issues. Considering the findings of our review, we agreed that this was a well-chosen study selection.	
	One of the exclusion criteria was 'study focused on a single disease or group of patients/clients'. I find that this could exclude some interesting interventions even though they are focused on a single disease as this does not exclude coordination mechanisms. Could the authors explain a bit more this exclusion criterion?	We thank you for this feedback. It is true that we may have missed some interesting literature caused by our research strategy and in/exclusion criteria. However, we were able to perform a review with a unique approach by including interventions focused on the collaboration of caregivers working interprofessional, instead of a single disease, or a single group of patients. This way, we were able to extract elements to develop generic tools/ interventions applicable in a broad range of practices and populations. As we are working towards integrated primary care, the development and use of common and generic tools are recommended.	No changes have been made.
	Regarding acceptance and team readiness: how was this measured in the studies?	Thank you for this question. Since most references to determine this theme used qualitative research methods, this was mostly measured by testimonials and observations of researchers. On the other hand, appropriate scales were used in the few quantitative and mixed-methods studies. All researches (20 in this case) used a different data collection method. For example, Chan et al. used	No changes have been made.

		a mixed methods design, using qualitative interviews, observations and a survey assessing multidisciplinary teamwork. Since the scales were not in the scope of our study, we only provided a description of the study designs in table 2.	
	Communication strategies: authors report that informal meetings were quite common. Are these informal communication strategies currently reported in the medical records? In case is not maybe comment on the discussion the importance of reporting this mechanisms in order to avoid underestimation.	Thank you for your feedback. Indeed, these informal communication strategies were not reported in the medical records. However, we think this is an important communication strategy. Therefore, we followed your advice and included this in the discussion section.	<u>Discussion, page 17, lines: 349-353. We added the following sentences:</u> Although interventions in our review did not give attention to informal meetings as much as existing literature[88-90], Burm et al.[88] indicated that, by recognising the importance of informal meetings, care providers are more motivated to organise or participate in informal meetings. These meetings tended to be ad-hoc and improvised, and in some cases, discussion topics were recorded in notebooks.[89, 90]
	Within the discussion section, I missed examples of successful coordination mechanisms and how they were measured. The problem with these interventions is that are not currently evaluated and often are left at second point when actually are essential to ensure proper management of chronic diseases.	Thank you for this accurate observation. We agree that a majority of the interventions in our review were not (yet) evaluated. Furthermore, this review revealed that there is a lack of interventions on interprofessional collaboration and integration in primary care, which were implemented and evaluated thoroughly. (both qualitative and quantitative) Although we already pointed this out in the article, we will highlight the lack of proper evaluations in the discussion.	<u>Discussion, page 18, lines: 389-391. We added the following sentences:</u> Contrary to generic interventions focusing on IPCI, interventions focusing on a single disease and improving health outcomes were implemented more successfully and were evaluated in a more sophisticated way, using validated scales.[27, 100-102]
	Within the limitations sections perhaps authors could include that	Thank you for this observation. We indeed	No changes have been made.

	most of the studies were qualitative and its implications on the results.	found mostly qualitative research articles. However, we were able to extract common themes from these qualitative researches. In addition, since the mixed methods and quantitative studies indicated comparable findings with the qualitative studies, we think that this can be seen as a strength rather than a limitation.	
Other points to be taken into account:			
	Quality assessment is missing. One example is to present the results of ROBINS tool.	We want to thank you for your feedback. Since we conducted a scoping review, we decided not to perform any formal quality assessments. However, this scoping review may be the predecessor of a systematic review, in which a quality assessment using the ROBINS tool, implemented in a methodical, would be very valuable.	No changes have been made.
	Within the current worldwide situation would be a good idea to include how the digital revolution and ehealth tools have been helping and contributing (specially in the last 2 years). I will affect and many new tools are appering nowadays and research and health services organizations need to take them into account.	Thank you for this remark. We agree that digitalisation has an important role in today's healthcare. However, the scoping review did not reveal digital tools or digital interventions that improved interprofessional collaboration and integration in primary care. Therefore, we added some references to the discussion, to present the effects of this digital revolution.	Discussion, page 18, lines: 363-366. We added the following sentences: To solve problems regarding care coordination, especially after the Covid19 pandemic, the use of digital healthcare tools was established.[95] Fagherazzi et al.[96] indicated that these digital tools improved triage and risk assessment.

Reviewer 2			
	Comment	**Response**	**Change in manuscript**
	Abstract and methods – why did you only include English articles? Given your affiliations, there may have been some interesting research on integration in other languages. While recognizing the need for different search terms if another language is used fully, this may have been interesting to compare.	Thank you for this remark. Since most journal articles are written in English, and to avoid misinterpretations and translation errors, we decided to only include English articles. We already mentioned this in the discussion: 'In addition, by including only English-language articles and avoiding the grey literature, we might have missed some relevant papers.' However, we also added this as a limitation of this study.	Strengths and limitations, page 2, lines: 52-53. We added the following sentences: Only articles written in English were included. Therefore we may have missed valuable literature.
	Page 4, first line – "…Bardet et al. identified the following five key elements….," but I only see 4 listed. Please clarify.	Thank you for this important feedback. To avoid confusion, we decided to reconstruct this part of the article.	Introduction, page 3, lines: 94-97. We changed the following sentences in the 3rd paragraph: To achieve and maintain interprofessional collaboration in primary care, Bardet et al.[16] identified the following key elements: trust, interdependence, perceptions and expectations from the other health care professionals, their skills, their interest for collaborative practice, their role definition and their communication.[17-23]
	Page 4, first paragraph, last sentence – "These key elements match with the five dimensions of integrated care described by Valentijn et al." – Do they match exactly? If not exactly, please list their five dimensions so the reader can compare.	Thank you for this important feedback. We agree that the description of the Rainbow model is confusing.	Introduction, page, 3, lines: 97-102. We hanged the following sentences: These key elements are also present in the five dimensions of integrated care that Valentijn et al.[24, 25] described in the Rainbow model as following: system, organisational, professional, clinical, functional, and normative integration. Integrated care and quality collaboration between

			professionals leads to improved access to care [26], better health outcomes [27], and enhanced prevention.[28, 29]
	Table 1 – why are Numbers 2 and 3, 21 and 22, and 24 and 25 the same?	Thank you for this observation. We indeed forgot to add spaces between some words.	Methods. Starting from line 138. In step 2 - Table 1: We added spaces between the search terms.
	Tables 2 and 3 – for your consideration, since the title and journal are provided in the references, perhaps combine tables 2 and 3 to decrease redundancy and to link the information from the studies together.	Thank you for this feedback. We agree with you that combining tables 2 and 3 would decrease redundancy and improve the readability of our results.	Findings, page 6-12, lines 181-184. We merged tables 2 and 3 into one table with the title: Table 2: An overview of the characteristics of the selected articles.
	Page 12 - Findings, theme 2, first paragraph – even though “safe team” and “safety” are included here, there is no description of these terms until the discussion. This safety seems to relate to psychological safety but could just as well fit personal or physical safety as currently described in the findings section. Maybe add a bit of clarification here of psychological safety as described by the studies.	We appreciate your comment on the topic of psychological safety. We decided to include a clarification of this concept in the introduction of our article. In addition, we made some changes in the description of our findings.	Introduction, page 6, lines: 82-86. We changed the following sentences: As Goodwin et al.[9] and Lewis et al.[10] see an efficient interprofessional collaboration as a prerequisite for integrated care, Edmondson et al.[11] indicated that psychological safety, defined as a shared belief that the team is safe for interpersonal risk-taking, is a critical factor in understanding teamwork and organisational learning. Findings, theme 2, page 14, lines: 224-227. We added the following sentences: An environment of greater psychological safety improved collaborative behaviour, and in some cases, it replaced working in silos with working as a team.[47, 50, 55, 61, 73, 75]
	Page 13 - Findings, theme 4, second paragraph – what are “circulatory and transitional	Thank you for this feedback. We have critically examined the use of both terms. To render	Findings, theme 4, page 16, lines: 288-289. We changed the sentences as follows: Especially informal

	spaces"?	the meaning correctly, we decided to add some examples of circulatory and transitional spaces.	communication was positively affected by the presence of convenient circulatory (e.g. foyers and lobbies) and transitional (e.g. courtyards, verandas, and corridors) spaces.[56, 59, 63]
	Page 13 - Findings, theme 5 – Perhaps clarify whether these are formal, informal or both types of caregivers. At times, I am thinking this includes family or other caregivers, but at other times I am wondering if it is discussing healthcare workers. In the discussion, it is a bit more clarified, but not entirely clear throughout since it is never defined.	Thank you for this remark. Although we included a clarification of what we mean with 'informal caregiver', we agree that it is not entirely clear throughout the article. To avoid this confusion, we decided to clarify this in the introduction by adding a reference. By doing so, we think that the reader will understand the content in the findings.	Introduction, page 3, lines: 87-90. We added the following sentences: Next to health professionals, informal caregivers are involved in interprofessional collaboration.[12] According to the World Health Organisation,[13] informal caregivers should be considered full partners in care and they mostly consist of families and friends of the patient.