PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Development of a Primary Care Pandemic Plan Informed by In-Depth Policy Analysis and Interviews with Family Physicians across Canada During COVID-19: A Qualitative Case Study Protocol
AUTHORS	Mathews, Maria; Spencer, Sarah; Hedden, Lindsay; Marshall, Emily; Lukewich, Julia; Meredith, Leslie; Ryan, Dana; Buote, Richard; Liu, Tiffany; Volpe, Emily; Gill, Paul; Ryan, BL; Schacter, Gordon; Wickett, Jamie; Freeman, Thomas; Sibbald, Shannon; Wong, Eric; McKay, Maddi; McCracken, Rita; Brown, Judith

VERSION 1 – REVIEW

REVIEWER	Jason Scott Northumbria University, Faculty of health and life sciences
REVIEW RETURNED	01-Feb-2021

GENERAL COMMENTS	Dear authors, This sounds like a very interesting and important study that will be of relevance across Canada and potentially further afield as countries address and update their own pandemic response plans. I thought your introduction was excellently presented, providing sufficient context for the research both in relation to Covid-19 generally, and specifically in relation to the Canadian context of the research. The methods are presented equally as well, and to a level that would allow repetition of the research. When conducting and writing up the research you may want to consider the broader relevance to other (presently unknown) communicable diseases. I look forward to seeing your study results once they are published.

REVIEWER	Felicity Goodyear-Smith The University of Auckland, General Practice & Primary Health care
REVIEW RETURNED	23-Feb-2021

GENERAL COMMENTS	This well-written protocol gives a comprehensive description of a study to inform future pandemic plans in Canadian primary care. The methods chosen should meet their stated objectives. I note that the four provinces selected include two which have had two large COVID-19 waves, and two which have avoided a second large wave. Can the authors comment on how applicable their developed pandemic plans may be for the other provinces and territories not included in their sample. I suggest formal registration of this study.

REVIEWER	Chris van Weel Radboud university medical center, Department of Primary and Community Care
REVIEW RETURNED	01-Mar-2021

GENERAL COMMENTS	This proposed study looks exciting and highly relevant for family medicine in developing its responsiveness to (Covid-19-like) pandemics. It is also highly relevant for health policy in using family physicians and primary care in population health response to pandemic challenges. The study capitalizes on the Canadian situation with (a) the decentralized organization of health care – offering variation in policy setting; and (b) recent strengthening of the role of family medicine and primary care in its health system. Together with the innovative nature of the proposed methods, this makes the publication of the study proposal relevant. There are a couple of points fort he authors to consider: 1. The choice of the four regions of study. The authors explain specific characteristics of the four regions in terms of population and organization of health care. But how do these regions compare tot he country-wide variation in thise characteristics? In other words, to what extent does the study use the 'natural' variation in the country that is available fort his study? 2. With ICES, Canada has developed a unique health informatics database and I expect that Covid-19 data are currently collected there. Would it be possible to use quantitative empirical data of (primary) care in Covid-19 from ICES (or any other network) to validate the qualitative study data? For example to support the time-table or the perceived impact of the pandemic? 3. There is a growing number of international studies on the impact of Covid-19 on primary care and reporting primary care/family medicine best and worst practice, evolution of their role during the pandemic. This evidence may serve to interpret study findings and help explain the local uniqueness or universality of the study findings. 4. Internationally, there are currently grave concerns of the impact of Covid-19 on health policy towards primary care and the role of family physicians in the system: the fear is, that short-term preoccupation with acute health needs have triggered 'disease-specific' measures and focussed funding towards 'disease-specific' facilities, at the expense the long-term support of a stronger role of generalism care in the community. The variation in health system approaches in this study might find evidence for these concerns – or find evidence that this is unfounded fears. But to answer this, the experience of policy makers and public health officers may be more relevant than that of family physycians. Would it be an idea to include their views and experiences as well?

VERSION 1 – AUTHOR RESPONSE

Reviewer 1 - Dr. Jason Scott, Northumbria University

Comments to the Author

Dear authors,
This sounds like a very interesting and important study that will be of relevance across Canada and potentially further afield as countries address and update their own pandemic response plans. I thought your introduction was excellently presented, providing sufficient context for the research both in relation to Covid-19 generally, and specifically in relation to the Canadian context of the research. The methods are presented equally as well, and to a level that would allow repetition of the research. When conducting and writing up the research you may want to consider the broader relevance to

other (presently unknown) communicable diseases. I look forward to seeing your study results once they are published.

We appreciate Dr Scott's positive feedback and have noted their suggestions to consider the potential broader relevance and impacts to other communicable diseases in the development of our primary care pandemic plan and in forthcoming publications with our research findings.

Reviewer 2 - Prof. Felicity Goodyear-Smith, The University of Auckland

Comments to the Author

This well-written protocol gives a comprehensive description of a study to inform future pandemic plans in Canadian primary care. The methods chosen should meet their stated objectives. I note that the four provinces selected include two which have had two large COVID-19 waves, and two which have avoided a second large wave. Can the authors comment on how applicable their developed pandemic plans may be for the other provinces and territories not included in their sample. I suggest formal registration of this study.

The authors thank Professor Goodyear-Smith for their positive response. Regarding the broader application of our pandemic plan to provinces and territories not included in the sample, we would note the variation in primary care structures and practices within and across the four cases which account for funding models, practice settings, primary care networks, and virtual care utilisation prior to the pandemic. Additionally, our provinces vary markedly in terms of the levels of and responses to COVID-19, which we believe enhances our ability to create pandemic plans that will be applicable to other provinces not included in our sample. At the outset of the paper (in the Strengths and Limitations box), we have noted that the generalisability of our findings may be limited by provincial variation in primary care systems but we also note the maximum variation sampling approach we have utilised which should help to mitigate issues related to generalisability outside of the selected cases. We also appreciate the suggestion to formally register our study; our team is currently looking into this.

Reviewer 3 - Dr. Chris van Weel, Radboud University Medical Center, Australian National University

Comments to the Author

This proposed study looks exciting and highly relevant for family medicine in developing its responsiveness to (Covid-19-like) pandemics. It is also highly relevant for health policy in using family physicians and primary care in population health response to pandemic challenges.

The study capitalizes on the Canadian situation with (a) the decentralized organization of health care – offering variation in policy setting; and (b) recent strengthening of the role of family medicine and primary care in its health system. Together with the innovative nature of the proposed methods, this makes the publication of the study proposal relevant.

There are a couple of points for the authors to consider:

1. The choice of the four regions of study. The authors explain specific characteristics of the four regions in terms of population and organization of health care. But how do these regions compare to the country-wide variation in these characteristics? In other words, to what extent does the study use the 'natural' variation in the country that is available for this study?

We appreciate this question from Dr van Weel. To clarify, our cases capture the variation of key components in primary care reforms across the country, including type (fee for service, capitation, salary) and base of funding (geography, roster), interprofessional practice, formal/informal networks of primary care practices, rostering, after hours arrangements, and pre-pandemic integration of virtual care. As we noted above in our response to Professor Goodyear-Smith's comments, while the generalisability of our findings may be limited by provincial variation in primary care systems and policies in other provinces/territories of Canada, our maximum variation sampling and the diversity of primary care practice within and across the four cases should mitigate that potential limitation while accounting for the 'natural' variation of primary care at the national level. We have added to the following text to the manuscript to address this on page 6, paragraph 1:

'These regions, while pragmatically representing the locations of our pre-existing research team, have variation in their numbers of COVID-19 cases and deaths, include urban and rural communities, links to acute care, and represent varied regional structures and primary care funding and practice models that are characteristic of primary care models and reforms implemented across Canada.'

2. With ICES, Canada has developed a unique health informatics database and I expect that Covid-19 data are currently collected there. Would it be possible to use quantitative empirical data of (primary) care in Covid-19 from ICES (or any other network) to validate the qualitative study data? For example to support the time-table or the perceived impact of the pandemic?

We thank Dr van Weel for this suggestion and would note that ICES data is already being fed into the data collection through the policy analysis which includes data on COVID conditions. We would also note that two of the PIs (Mathews and Marshall) are also involved in primary care-related studies using ICES data in a separate COVID-related project. The protocols for the ICES-related studies are currently under review. Moreover, future work involving ICES data to validate findings from this project is currently under development, but are beyond the scope of this current protocol.

3. There is a growing number of international studies on the impact of Covid-19 on primary care and reporting primary care/family medicine best and worst practice, evolution of their role during the pandemic. This evidence may serve to interpret study findings and help explain the local uniqueness or universality of the study findings.

We are in complete agreement with Dr van Weel on the value of this mounting body of evidence. We are actively searching and reviewing the literature on related studies, which will undoubtedly influence the interpretation of our own findings.

4. Internationally, there are currently grave concerns of the impact of Covid-19 on health policy towards primary care and the role of family physicians in the system: the fear is, that short-term preoccupation with acute health needs have triggered 'disease-specific' measures and focussed funding towards 'disease-specific' facilities, at the expense the long-term support of a stronger role of generalism care in the community.

The variation in health system approaches in this study might find evidence for these concerns – or find evidence that this is unfounded fears. But to answer this, the experience of policy makers and public health officers may be more relevant than that of family physicians. Would it be an idea to include their views and experiences as well?

We agree with Dr van Weel about the importance of engaging with policy makers and public health officers in this research, which is one of the reasons why – as noted in the Strengths and Limitations box – our study team includes individuals with this expertise (i.e., policy makers and public health officers). We also have submitted a grant application for a complementary project that will follow this

work; it includes formal consultation with public health officials and policy makers in the development of primary care pandemic planning tools for regional planning. Incidentally, our study team also includes a number of experts who are researching generalism versus focussed practice in family medicine.

We hope that the revisions to our manuscript and the responses to the reviewers' comments have been sufficiently addressed to proceed with publication of our protocol paper. We thank you for your continued in interest in our research.

VERSION 2 – REVIEW

REVIEWER	Chris van Weel Radboud university medical center, Department of Primary and Community Care
REVIEW RETURNED	30-Apr-2021

GENERAL COMMENTS	As my initial points have been taken to heart by the authors, I have no further comments. I realize that some of my points - and in particular the point of how well in response to an overwhelming epidemic primary care can still combine its generic core function in the health system with a specific lead in coping with the epidemic - may be more a point for the discussion when reflecting on their findings. I hope they will address this point as it is so vital for the current promotion of primary care in countries' health systems.