PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Identifying priorities for research on financial risk protection to achieve universal health coverage: A scoping overview of reviews
AUTHORS	Bhatia, Dominika; Mishra, Sujata; Kirubarajan, Abirami; Yanful, Bernice; Allin, Sara; Di Ruggiero, Erica

VERSION 1 – REVIEW

REVIEWER	Mukherji, Arnab Center for Public Policy IIM Bangalore
REVIEW RETURNED	23-May-2021

GENERAL COMMENTS	The paper presents a systematic review of literature on achieving financial risk protection (FRP) in the context of universal health coverage (UHC), focusing on low- and middle-income countries (LMIC). Using a cleanly defined strategy for identifying papers, using standard platforms for access of papers, the paper identifies 35 papers, each of which present reviews of literature relevant to FRP in the context of UHC in LMICs. In this sense the paper is important since it succinctly reviews the rapidly burgeoning literature around UHC - an important policy priority in the context of many developing countries today. This is true both in the context of a) the SDGs and b) the COVID-19 pandemic and its demand on health systems and its impact on people, particularly on FRP. The strength of the paper lies in its de-construction of the term FRP and discussing this in the literature in terms of the following: • Definition and use of alternative measures of FRP. • Different Dimension of providing FRP (e.g., risk pooling, coverage, incentives, etc.). • Domains in which gaps in evidence remain (e.g., effectiveness evidence, experience of care, health status, etc.) • State of evidence on cost-effectiveness The unit of observation in the paper is a systematic review of literature. This is useful and helps identify clear boundaries for the paper to work within. Some issues on which a sharper discussion would be useful are as follows: • The section under evidence gap focussing on impact evaluations of FRP notes that the evidence in the literature is mixed indicating that evidence does exist, but that it does not present a clear inference. This is also true theoretically, where in an expansion of UHC can have ambiguous impacts on healthcare costs. Further, having more research may not necessarily resolve the issue of

	unambiguous inferences on this. This is not an issue of lack of evidence, but rather of complexities that are inherent in the area. • The section on different dimension of FRP is useful – it leaves the reader wanting more information – what is the design of pooling? Tax financed or through formal insurance or mixed? Is the risk transferred to the insurer or to the government? • Finally, it would be useful to look at the fiscal context in which UHC was rolled-out – did it involve greater money being spent by the government on healthcare as a ratio of GDP, or was it a reallocation within the budget of the health ministry? Since the unit of study is the set of papers identified through the algorithm mentioned in the paper, it is understandable if these issues are not discussed because they have not been discussed in these papers. But surely, then, the issue of fiscal design, and overall financial context in which UHC was rolled out remains an important evidence gap.

REVIEWER	Weaver, Marcia University of Washington, International Training and Education Center for Health (I-TECH), Department of Global Health
REVIEW RETURNED	28-May-2021

GENERAL COMMENTS	Main comments: 1. Begin by referring to the Sustainable Development Goals (SDG), and introducing Universal Health Coverage (UHC) as an SDG target 3.8, “Achieve UHC, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.” Then introduce coverage and financial risk protection as indicators of progress toward that target. Specifically, Indicator 3.8.1 is “coverage of essential health services,” and Indicator 3.8.2 is “Proportion of population with large household expenditures on health as a share of total household expenditure or income.” Although UHC may have been defined differently in the early literature, it’s in the best interest of the field to use the established targets and indicators, and will involve substantial edits to the abstract and main text of the manuscript. 2. This introduction will also clearly distinguish between health services, and financial risk protection, and establish that financial risk protection is a measurable indicator and dimension of UHC in and of itself. With this in mind, the authors should devote more time and attention to the evidence on interventions to achieve financial risk protection. The manuscript devotes a full page (page 9, line 9) to describing interventions, and only one paragraph (page 10, line 44) to the evidence on the effectiveness of the interventions in increasing financial risk protection. Elaborate on the studies that address effectiveness and their results. There must be more evidence in this literature, and if not, the conclusion should be stronger than “found gaps in evidence related to effectiveness.” 3. Comment 2 applies to equity of financial risk protection. I appreciate that the authors raised this issue, but provide more information on the studies that addressed equity and their results.

	4. The limited evidence on high income countries suggests a major flaw in the author's search strategy, perhaps because it required a keyword related to UHC. Health insurance is the main form of financial risk protection in high income countries, and the authors' review omitted important reviews such as: Levy H, Meltzer D. The Impact of Health Insurance on Health. Annu Rev Public Health. 2008; 29(1):399–409. Dor A, and Umapathi E. Health Insurance and Health. in Culyer AJ ed. Encyclopedia of Health Economics. (Amsterdam: Elsevier Inc, 2014). It raises a concern that the issue is not an absence of evidence, but an inappropriate strategy for searching the evidence. 5. The authors cite Lozano et al's. Lancet 2020 evidence on coverage of essential interventions, I encourage them to cite Dieleman et al's Lancet 2020 evidence on health spending from pooled sources (government and insurance) vs out-of-pocket, which is relevant to this manuscript. Global Burden of Disease Health Financing Collaborator Network. Health sector spending and spending on HIV/AIDS, tuberculosis, and malaria, and development assistance for health: progress towards Sustainable Development Goal. Lancet 2020. Other comments: Abstract: line 7. Replace the opening sentence, "Achievement of universal health coverage (UHC) through financial risk protection (FRP) is embedded in the Sustainable Development Goals (SGD)" with a sentence using the SDG definitions, "Financial risk protection (FRP) is an indicator of the Universal Health Coverage (UHC) target." Page 4, line 19. The GPW13 goal is 1 billion additional people. Add the word "additional" to 389 million additional people. Page 7, line 10. What combination of searches in Supplementary file 1 gave you 2,224 records to initiate your review? Page 9, line 17. Refer to lower need as "healthier and/or wealthier." Age is an inexact proxy for health. Page 9, line 42. Rephrase "coverage" as "insurance coverage." Page 15, line 56. The phrase "it remains unclear whether FRP interventions are effective at reducing health-related financial burden" needs revision. Is the evidence unclear or is there an absence of evidence? If FRP is the absence of health-related financial burden, then the authors can simply say "whether interventions increase FRP." Page 16, line 33. Specify how routine health information data systems would provide information on out-of-pocket spending. Page 17, line 13. The sentence "Similar to our findings, scholars have also suggested broadening the definition of equity from wealth to geographic and cultural disparities" needs revision. Clarify that the results of your scoping review are similar to another scoping review.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

The paper presents a systematic review of literature on achieving financial risk protection (FRP) in the context of universal health coverage (UHC), focusing on low- and middle-income countries (LMIC). Using a cleanly defined strategy for identifying papers, using standard platforms for access of papers, the paper identifies 35 papers, each of which present reviews of literature relevant to FRP in the context of UHC in LMICs. In this sense the paper is important since it succinctly reviews the rapidly burgeoning literature around UHC - an important policy priority in the context of many developing countries today. This is true both in the context of a) the SDGs and b) the COVID-19 pandemic and its demand on health systems and its impact on people, particularly on FRP.

The strength of the paper lies in its de-construction of the term FRP and discussing this in the literature in terms of the following:

- Definition and use of alternative measures of FRP.
- Different Dimension of providing FRP (e.g., risk pooling, coverage, incentives, etc.).
- Domains in which gaps in evidence remain (e.g., effectiveness evidence, experience of care, health status, etc.)
- State of evidence on cost-effectiveness

The unit of observation in the paper is a systematic review of literature. This is useful and helps identify clear boundaries for the paper to work within.

Response: We appreciate the reviewer's interest in our paper and the positive comments regarding the paper's relevance to the literature on universal health coverage.

Some issues on which a sharper discussion would be useful are as follows:

1. The section under evidence gap focussing on impact evaluations of FRP notes that the evidence in the literature is mixed indicating that evidence does exist, but that it does not present a clear inference. This is also true theoretically, where in an expansion of UHC can have ambiguous impacts on healthcare costs. Further, having more research may not necessarily resolve the issue of unambiguous inferences on this. This is not an issue of lack of evidence, but rather of complexities that are inherent in the area.

Response: This is an excellent point. We agree with the reviewer that evaluation of expansion of UHC through FRP is more complex than quantitative evidence of effectiveness and impact may seem to suggest. Our findings (pages 16-17) identified a need for process evaluations and the use of qualitative data to broaden the scope of evaluation in the field of UHC. Specifically, these approaches may allow to move beyond understanding whether FRP interventions "work" towards considering who they work for, in what contexts, and how.

To further clarify this point, we incorporated the reviewer's comment into the Discussion (page 20, paragraph 1), where we begin by summarizing the limitations in quantitative impact evaluations and highlight the need to consider the inherent complexities in the field: "In addition, ambiguities in the quantitative evidence of effectiveness of FRP interventions may be owed to the inherent complexities of implementing and evaluating public health interventions within dynamic settings (93), rather than a limited evidence base. As such, our findings suggest that process evaluations using qualitative and

mixed methods should accompany impact evaluations to elucidate FRP mechanisms of action across different health system contexts and population subgroups (94)."

2. The section on different dimension of FRP is useful – it leaves the reader wanting more information – what is the design of pooling? Tax financed or through formal insurance or mixed? Is the risk transferred to the insurer or to the government?

Response: This is a fair suggestion. We have made revisions on page 11, throughout the 'pooling arrangements' section, in order to provide further detail on the design of risk pooling considered among the included literature reviews.

Since the unit of analysis of the present overview is individual literature reviews, most reviews on risk pooling considered several approaches, without detailed discussion of the specific arrangements within individual countries or health systems. As discussed in greater detail in response to comment #3 by Reviewer #2, we have also provided more information throughout the manuscript to better justify and frame our study design.

3. Finally, it would be useful to look at the fiscal context in which UHC was rolled-out – did it involve greater money being spent by the government on healthcare as a ratio of GDP, or was it a reallocation within the budget of the health ministry?

Response: We agree with the reviewer that the fiscal context within which FRP interventions are implemented has significant implications for their impacts. As our objective was to identify evidence gaps using an overview of reviews methodology, such contextual information was not available at our level of analysis.

We have added the reviewer's point to our Limitations section, where we discussed the issues related to our unit of analysis (page 21): "Fourth, while an advantage of overviews is their provision of an overall picture of a research field or phenomenon (21), most of the included reviews were multi-country and/or multi-region studies with limited information on the sociopolitical, legal, and fiscal contexts within which FRP efforts were undertaken."

As noted earlier, we also recognized a need to provide more thorough justification and framing for our research methodology. These revisions are discussed in greater detail in response to comment #3 by Reviewer #2.

The relevance of the fiscal, as well as sociopolitical, legal, and cultural contexts has also emerged among our findings, as discussed in (i) the tradeoffs of single-country versus multi-country designs, with the former offering more contextual insight; and (ii) the need for process evaluations to examine the role of contexts and mechanisms in FRP intervention outcomes (pages 16-17).

Reviewer 2

Main comments:

1. Begin by referring to the Sustainable Development Goals (SDG), and introducing Universal Health Coverage (UHC) as an SDG target 3.8, "Achieve UHC, including financial risk protection, access to

quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all." Then introduce coverage and financial risk protection as indicators of progress toward that target. Specifically, Indicator 3.8.1 is "coverage of essential health services," and Indicator 3.8.2 is "Proportion of population with large household expenditures on health as a share of total household expenditure or income." Although UHC may have been defined differently in the early literature, it's in the best interest of the field to use the established targets and indicators, and will involve substantial edits to the abstract and main text of the manuscript.

Response: We appreciate the reviewer's insight and agree with these suggestions to improve the framing of our research objectives within the current literature on UHC and FRP. We have substantially revised the Introduction (paragraphs 1 and 2, page 4) to bring it in line with the current literature by providing further information on SDGs and how financial risk protection is understood in that context.

2. This introduction will also clearly distinguish between health services, and financial risk protection, and establish that financial risk protection is a measurable indicator and dimension of UHC in and of itself.

Response: We agree with this suggestion. As noted in the response to the reviewer's first comment, we have significantly reworked the Introduction (paragraphs 1 and 2, page 4) and established that financial risk protection is a measurable dimension of UHC, as identified by the SDG 3 indicators.

3. With this in mind, the authors should devote more time and attention to the evidence on interventions to achieve financial risk protection. The manuscript devotes a full page (page 9, line 9) to describing interventions, and only one paragraph (page 10, line 44) to the evidence on the effectiveness of the interventions in increasing financial risk protection. Elaborate on the studies that address effectiveness and their results. There must be more evidence in this literature, and if not, the conclusion should be stronger than "found gaps in evidence related to effectiveness."

Response: We understand the reviewer's concern and agree that more context should be provided regarding the effectiveness of the interventions considered among the included literature reviews. We have made substantial revisions throughout pages 12-15 to provide this context and clarify terminology related to insufficient versus inconsistent evidence.

We also further clarified our objective, as well as the rationale for and limitations of our chosen methodology and unit of analysis. Specifically, we performed a scoping overview of reviews to describe the evidence gaps (defined as research findings or propositions identified as insufficient and meriting further study by the research community) in the context of the current knowledge on achievement of UHC through FRP.

The described evidence gaps are therefore those identified by the individual literature reviews included in our overview, rather than those inferred through our consideration of effectiveness of interventions. Considering the differing methodologies among the included literature reviews, some of which may or may not involve a critical appraisal, may or may not be systematic, and may or may not sufficiently disaggregate intervention types and their impacts, we are unable to make robust claims regarding intervention effectiveness.

To clarify these aims, we have made substantial revisions throughout the manuscript:

- Introduction: added discussion on the role of agenda setting in global health research (page 5, paragraph 1)
- Study design and rationale: added rationale for employing a scoping overview of reviews methodology to identify evidence gaps (paragraph 5, paragraph 2)
- Data extraction and synthesis: added definition of "evidence gaps" (derived from the literature on research agenda-setting) and clarified that we used a descriptive approach to synthesis (pages 7-8)
- Limitations: added further limitations specific to scoping overviews of reviews, including unit of analysis issues, lack of critical appraisal, and reliance on interpretations of authors of the included reviews (page 21).

4. Comment 2 applies to equity of financial risk protection. I appreciate that the authors raised this issue, but provide more information on the studies that addressed equity and their results.

Response: We agree with this suggestion. Similar to the revisions made in response to the reviewer's comment #3, we have made revisions on pages 14-15 to provide further information on the findings of reviews that discussed intervention impacts in relation to equity.

5. The limited evidence on high income countries suggests a major flaw in the author's search strategy, perhaps because it required a keyword related to UHC. Health insurance is the main form of financial risk protection in high income countries, and the authors' review omitted important reviews such as:

Levy H, Meltzer D. The Impact of Health Insurance on Health. Annu Rev Public Health. 2008; 29(1):399–409.

Dor A, and Umapathi E. Health Insurance and Health. in Culyer AJ ed. Encyclopedia of Health Economics. (Amsterdam: Elsevier Inc, 2014).

It raises a concern that the issue is not an absence of evidence, but an inappropriate strategy for searching the evidence.

Response: We appreciate the reviewer raising this point and agree that our framing of the results from HIC settings was unclear. Throughout the manuscript, we have endeavoured to improve the transparency of our searching and selection approaches and to provide more nuance to our framing of the findings.

First, we have provided more explanation regarding the search strategy in the Methods (page 6, paragraph 3), where we acknowledged that terminology for UHC has varied over time and between HIC and LMIC settings, with HIC predominantly using "universal health care" and LMIC using "universal health coverage" (based on previous work by Stuckler et al. 2010). In our search strategy, we sought to capture all variations, including universal [health] coverage, universal [health] care, universal healthcare, and insurance coverage, among other related terms. As noted in our response to the reviewer's comment #9, we have also provided our full search strategy for each of the searched databases in Supplementary file 1.

Second, we have clarified our selection criteria in the Methods (page 7, paragraph 1) and the Supplementary file 2, providing further detail on research designs and the UHC and FRP concepts.

To ensure that we are capturing original literature reviews (rather than, for instance, commentaries or editorials), we included studies that had a transparent methodology section that ascertained that a literature review was undertaken. To ensure that we are capturing literature in the field of UHC, we required UHC and FRP to be of central focus to the article (though specific terminology may vary, as noted in the search strategy). Finally, we focused on academic and published work, to capture research that has undergone peer-review.

We really appreciate the reviewer's suggestions of relevant studies. While this work does not meet the specific selection criteria for inclusion in the scoping review (Levy 2008 does not describe its review methodology; Dor 2014 is a book chapter), we found the Levy 2008 paper to be of particular interest and cited it in the Discussion (reference #91, page 19, paragraph 1). This paper supports the methodological issues of observational studies identified in our synthesis and echoes the need for higher quality evaluative quasi-experimental studies.

Third, we have made the framing of our findings on HIC settings more nuanced in light of the limitations of our chosen methodology. While both HIC and LMIC settings were represented in our review, the latter were considered by a greater number of reviews. This may be owed to fewer evidence reviews that meet our selection criteria being focused solely on HIC settings, rather than a lack of primary studies. We have reworked our Discussion to reflect this limitation (page 21).

6. The authors cite Lozano et al.'s Lancet 2020 evidence on coverage of essential interventions, I encourage them to cite Dieleman et al.'s Lancet 2020 evidence on health spending from pooled sources (government and insurance) vs. out-of-pocket, which is relevant to this manuscript.

Global Burden of Disease Health Financing Collaborator Network. Health sector spending and spending on HIV/AIDS, tuberculosis, and malaria, and development assistance for health: progress towards Sustainable Development Goal. Lancet 2020.

Response: We thank the reviewer for this excellent suggestion. We have cited this article in the Introduction (page 4, paragraph 2), when discussing the greater reliance on out-of-pocket financing over prepaid sources in LMIC settings, compared to HIC.

Other comments:

7. Abstract: line 7. Replace the opening sentence, "Achievement of universal health coverage (UHC) through financial risk protection (FRP) is embedded in the Sustainable Development Goals (SGD)" with a sentence using the SDG definitions, "Financial risk protection (FRP) is an indicator of the Universal Health Coverage (UHC) target."

Response: Thank you for this suggestion. As suggested by the reviewer and in alignment with the revisions made to the Introduction (Reviewer 2, comment #1), we have replaced the opening sentence of the Abstract to the following: "Financial risk protection (FRP) is an indicator of the Sustainable Development Goal 3 universal health coverage (UHC) target."

8. Page 4, line 19. The GPW13 goal is 1 billion additional people. Add the word "additional" to 389 million additional people.

Response: Thank you for pointing out this omission. We have made the indicated edit on page 4, paragraph 2.

9. Page 7, line 10. What combination of searches in Supplementary file 1 gave you 2,224 records to initiate your review?

Response: We agree that this was unclear. We have provided our full search strategy for each of the four databases in Supplementary file 1 (which previously contained the sample search strategy in one database, MEDLINE, and therefore, did not account for all the records retrieved in the search). We have also updated the PRISMA study selection flowchart (Figure 1) to provide the number of records retrieved from each database, prior to the deduplication and screening steps.

As requested by the editor (editor's comment #2 below), we have updated the search to the present time; as such, there are now 2,902 records retrieved by the search strategy for the study period (January 1, 1995 to July 20, 2021), rather than 2,224 (previous study period: January 1, 1995 to April 29, 2020). The databases contributed to the total number of records as follows:

MEDLINE (Ovid): n = 1,348
APA PsycINFO (Ovid): n = 454
CINAHL-Plus (EBSCO): n = 935
PAIS Index (ProQuest): n = 165

10. Page 9, line 17. Refer to lower need as "healthier and/or wealthier." Age is an inexact proxy for health.

Response: We agree with the reviewer that the relationship between age and health status is more complex than indicated in that statement. We have made the edit suggested by the reviewer on page 11 in the "pooling arrangements" section.

11. Page 9, line 42. Rephrase "coverage" as "insurance coverage."

Response: Thank you for noting this omission. We have made this edit on page 11 in he "expanding insurance coverage" section.

12. Page 15, line 56. The phrase "it remains unclear whether FRP interventions are effective at reducing health-related financial burden" needs revision. Is the evidence unclear or is there an absence of evidence? If FRP is the absence of health-related financial burden, then the authors can simply say "whether interventions increase FRP."

Response: We agree that this statement was confusing. We have made the suggested edit on page 19, in the opening paragraph of the Discussion.

13. Page 16, line 33. Specify how routine health information data systems would provide information on out-of-pocket spending.

Response: We have clarified that the increasing use of routine health information systems (RHIS) may be well-suited for longitudinal FRP program evaluations that consider health service use or

health status-related outcomes. As noted in a recent systematic review by Hung et al. (2020), RHIS data has been used to support higher-quality research designs, such as quasi-experimental studies, in LMIC settings.

However, we acknowledge that household survey data are still required when considering FRP outcomes, such as out-of-pocket spending. We have revised the sentence highlighted by the reviewer as follows: “For instance, RHIS data has been successfully used to support longitudinal program impact evaluations in relation to health service use and disease-related outcomes using time series and difference-in-difference designs (though it should be noted that RHIS do not provide information on FRP metrics like household OOPE, CHE, and IHE) (92)” (page 20, paragraph 1).

14. Page 17, line 13. The sentence “Similar to our findings, scholars have also suggested broadening the definition of equity from wealth to geographic and cultural disparities” needs revision. Clarify that the results of your scoping review are similar to another scoping review.

Response: We understand that this statement was unclear. We have elaborated that the conceptualization of equity remains heterogeneous in the literature, resulting in differences in how equity is measured and which stratifying variables are selected. The reviews identified in our overview noted that while many primary studies consider measures of wealth or income, other social determinants are also of interest.

As such, we have amended the statement on page 20, paragraph 2 to the following: “In addition, while equity has often been thought to be implicit in the goal of UHC and an assumed consequence of its achievement (11,97,98), there is increasing recognition that striving for health for all and reducing disparities are two separate aims, warranting the need to explicitly measure and monitor equity in UHC interventions using disaggregated data (97). Although there is no agreement on which stratifying variables should be selected when measuring inequities (97), the reviews included in this overview highlighted a need to disaggregate data across several social determinants of health (e.g., area of residence and migration status), in addition to income status.”

VERSION 2 – REVIEW

REVIEWER	Weaver, Marcia University of Washington, International Training and Education Center for Health (I-TECH), Department of Global Health
REVIEW RETURNED	13-Oct-2021

GENERAL COMMENTS	The revisions are very good, and addressed the comments raised in my initial review.