PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both. Closing the gaps in defining and conceptualising acceptability of healthcare: A synthesis review and thematic content analysis **N.B: My study is neither a systematic review nor a meta-analysis. It is just a synthesis review and thematic content analysis**	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number. **Abstract** **Background:** Acceptability of healthcare is gaining ground in public health research and practice. Overlooking healthcare acceptability when designing, implementing, monitoring and assessing healthcare interventions may lead to those interventions failing. Despite the importance of acceptability, the public health community still has to agree on an explicit definition and conceptual framework of acceptability. We considered different definitions and conceptual frameworks of healthcare acceptability, and identified commonalities to develop an integrated definition of healthcare acceptability. **Methods:** We conducted a synthesis review and thematic content analysis of research articles that attempt to define healthcare acceptability. We searched online databases including MEDLINE/PubMed, Cochrane Library and Google Scholar for relevant articles. The retained articles were imported into ATLAS.ti 8.4. Using thematic content analysis, we deductively and inductively coded categories and themes related to definitions and frameworks of healthcare acceptability. **Results:** Our review of the literature described the complexity of healthcare acceptability. The concept of acceptability remains poorly defined limiting its application in public health. We propose a definition of acceptability that includes the needs and expectations of the healthcare recipient, healthcare provider as well as the capacity of the healthcare systems. We define acceptability as a multi-construct concept describing nonlinear cumulative combination in parts or in whole of expected and experienced degree of healthcare from patient, provider or health systems and policy perspectives in a given context. We provide a conceptual framework of acceptability, applicable to the public health research and practice. **Conclusion**: We present a definition of acceptability that can be applied to different actors of public health including patients, providers, and health systems or policy. The proposed definition of acceptability, together with the conceptual framework provides a coherent conceptualisation that can be used by the broader public health community. **N.B: No systematic review registration number because my study is not systematic review**	1-2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Acceptability encompasses the social and cultural factors that influence access to healthcare. Given the broad meaning of terms associated with human interactions and perceptions, the concept of acceptability in healthcare remains poorly defined. Existing literature also reveals a poorly defined conceptual framework. The lack of clarity makes it difficult to implement the concept of acceptability especially from a health systems and policy point of view. There is also little research investigating acceptability from healthcare providers' perspectives, indeed most publications approach acceptability from patients' perspectives	2-3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS). In an effort to create a workable definition and framework of healthcare acceptability for the public healthcare community, we explored existing definitions and conceptual frameworks of healthcare acceptability. Specifically we (1) explore and describe the complexity of acceptability within the context of access to healthcare; (2) re-examine and clarify the context and semantic domains of acceptability of healthcare to inform its definition and (3) review and elucidate the conceptual framework of acceptability of healthcare and its	3

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		interpretation.	
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number. This study is part of PhD Research Project. Ethics reference No: 547/2019	4 and 18
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale. 'Acceptability of healthcare' were keywords. The database search was refined by adding terms such as 'concept', 'conceptualisation', 'construct' and 'framework' in various combinations. We included only full-text English documents that were freely available or accessed via the University of Pretoria Library Portal.	3
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched. We searched MEDLINE/PubMed, Cochrane Library and Google Scholar databases for relevant papers. Using a snowball strategy, we checked the reference lists of retrieved papers to identify additional documents.	3
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated. [acceptability of healthcare AND concept OR conceptualisation AND construct AND framework]; Search modes: Boolean/Phrase; Advanced Search Database: MEDLINE/PubMed.	3
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis). An "open" strategy was adopted to allow for the inclusion of any and all sources existing in the current literature on acceptability of healthcare. We included only full-text English documents that were freely available or accessed via the University of Pretoria Library Portal. **The study design, methodological quality appraisal or bias risk assessment for included articles were not considered because this study is not a systematic review or a meta-analysis**	3
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators. Following retrieval and selection of appropriate research articles, we analysed the content using a qualitative thematic content approach. All retained articles were imported into ATLAS.ti 8.4 and deductively and inductively analysed to develop a preliminary coding system. To ensure validity, the researchers discussed the preliminary coding system; revised the system twice until a final coding system was adopted. The researchers assessed the intra-coding reliability for the first five coded documents and there was a perfect agreement (100%) in length and location for the relevant codes.	3-4

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<table>
<tr><td>Data items</td><td>11</td><td>List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.

This was the key issue that this study seeks to establish as there is lack of agreement about the definition of acceptability variables. The variables were introduced in the method section. Further details about their assumptions as well as their simplification which were the main objective of this study. We analysed the context of acceptability and different definitions of acceptability variables, from that we proposed a conceptual framework.

List and definitions of acceptability of healthcare constructs from reviewed articles
<table>
<tr><th>Author</th><th>Constructs</th><th>Definition</th></tr>
<tr><td>Dayer et al [5]</td><td>Experiential
Social/Legitimacy</td><td>Meeting patients' expectations by their experiences of care
Services legitimacy including ethical principles, values, rules and regulations</td></tr>
<tr><td>Sekhom et al [2]</td><td>Effective Attitude
Burden
Ethicality
Intervention Coherence
Opportunity Costs
Perceived Effectiveness
Self-efficacy</td><td>How an individual feels about intervention
The perceived amount of effort that is required to participate in the intervention
The extent to which the intervention has good fit with an individual's value system
The extent to which the participant understands the intervention and how it works
The extent to which benefits, profits, or values must be given up to engage in the intervention
The extent to which the intervention is perceived to be likely to achieve its purpose
The participants' confidence that they can perform the behaviour(s) required to participate in the intervention</td></tr>
<tr><td>Bucyibaruta et al [1]</td><td>Patient–health provider interaction
Patient–health service interaction
Patient-community interaction</td><td>The relationship between the patient and health provider, which is understood through the expectations and beliefs from one toward another
The experiences lived by a patient when seeking health services and their perceptions about health service organization and delivery, including the length of queues, facility cleanliness and opening hours
The patient is not isolated but lives in a family and in a community with relatives and friends who might positively or negatively influence the patient's acceptability of health care. This element draws attention to the roles of family, friends and community often not emphasised enough in understanding the acceptability of health services to patients</td></tr>
</table></td><td>3
6-12</td></tr>
<tr><td>Risk of bias in individual studies</td><td>12</td><td>Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.</td><td>N/A</td></tr>
<tr><td>Summary measures</td><td>13</td><td>State the principal summary measures (e.g., risk ratio, difference in means).</td><td>N/A</td></tr>
<tr><td>Synthesis of results</td><td>14</td><td>Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.</td><td>N/A</td></tr>
</table>

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	N/A
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	N/A

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RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	N/A
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	N/A
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	N/A
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	N/A
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	N/A
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	N/A
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers). In this paper, we present a coherent definition of healthcare acceptability, which we converted into a conceptual framework. We considered acceptability within the context of access and, as a multi-construct, complex concept. Our literature review confirmed that imprecise definitions of acceptability and not having a coherent conceptual framework have hindered the application of health acceptability in health systems and policy. Our findings agree with other publications describing acceptability as a dimension of access to healthcare. This is particularly important and could help in resolving some misunderstandings surrounding the definition of acceptability. Ignoring acceptability as a facet of access to health care would probably result in using some components that are better suited to describing other dimensions of access. This has been noted in Sekhon and colleagues' theoretical framework of acceptability (TFA) considering "Opportunity Costs" among the seven constructs of acceptability. "Opportunity Cost" was defined as "the extent to which benefits, profits, or values must be given up to engage in the intervention". One could argue that the construct of "Opportunity Cost" would be best-fit into the dimension of affordability also called financial access. The findings from this review supported the claim of acceptability of healthcare as a multi-construct concept, even though not all articles agreed on the number and types of acceptability constructs. We propose that definitions of acceptability retain the constructs or elements of acceptability suggested by Gilson later confirmed by Bucyibaruta and colleagues. These constructs offer a holistic explanation of acceptability, and include patient-provider, patient-healthcare and patient-community interactions. Those constructs are also called provider acceptability, healthcare acceptability and community acceptability respectively. Most articles reviewed here only described specific aspects of acceptability such as relationships between patient or participant and intervention and missed some key aspects of acceptability such as the community component. This review aligns with descriptions of acceptability as a multi-level complex concept. Usually there are too little data describing the levels of complexity for acceptability leading to inconsistent definitions. This review added to existing literature in describing the semantic domains of acceptability corresponding to their level of complexity. The semantic domains include 'dimension' corresponding to the highest or macro level of acceptability, 'construct' corresponding to medium or meso level of acceptability and 'component' corresponding the lowest or micro level of acceptability. The constructs of acceptability should be mutually exclusive i.e. no component should be used to explain more than one construct of acceptability which is defined by broad and often overlapping components. Our findings agree with other studies which declared a lack of clear-cut definition of acceptability. However, the application of complex system theories such as mathematic modelling of complex phenomenon, stakeholder analysis and actor-networks would provide insight in defining acceptability of healthcare at macro, meso and micro level. A comprehensive definition should consider patient-provider, patient-healthcare and patient-community relationships. Accordingly, acceptability of healthcare was defined as: "A multi-	15-17

		construct concept describing nonlinear cumulative combination in parts or in whole of expected and experienced degree of healthcare from patient, provider or health systems policy makers in a given context" which informed the development of acceptability conceptual framework. The results from this review corroborated with the lack of shared interpretation of acceptability frameworks reported in the published literature. Lack of common understanding of acceptability frameworks significantly hampers the use of such frameworks in health systems and policy. Therefore, we suggested a systematic way of interpreting an acceptability conceptual framework based on five essential features. Those features include: (1) context, (2) basic theories, (3) dependent variables and (4) independent variables of acceptability of healthcare, and (5) application of acceptability conceptual framework in health systems and policy.	
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias). While everything was done to ensure internal validity, external validity fell short in this paper. In fact, independent review of included literature was not done. We did not assess inter-coding agreement. The proposed conceptual framework of acceptability has not been validated and adopted by any public health experts on this topic except the authors of this paper. Moreover, this paper does not offer practical ways to measure acceptability of healthcare. We believe this paper provides substantial information contributing toward forging consensus on the concept of acceptability among public health researchers and practitioners.	17
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research. Public health researchers are increasingly recognizing the growing role of acceptability of healthcare in designing, implementing and assessing health interventions, but are hampered by the lack of a coherent definition and framework of acceptability. Our literature review revealed that certain authors do not consider acceptability to be a facet of access to healthcare. Another barrier to defining acceptability, is that authors do not agree on the complexity of acceptability, with some considering acceptability as unitary construct whilst others seeing it as a multi-construct concept. These inconsistencies create confusion and limit application of the concept. Drawing on existing literature, we suggested acceptability be defined as 'a multi-construct concept describing nonlinear cumulative combination in parts or in whole of expected and experienced degree of healthcare from patient, provider or health systems and policy perspectives in a given context.' This definition was guided by application of the complex system such as mathematic modelling of complex phenomenon, stakeholder analysis and actor-networks theories together with other theories applied by other researchers in published literature. Finally, we proposed a conceptual framework of acceptability that will allow any researcher, health policymaker and health programme manager to understand and apply the concept of acceptability. The proposed definition of acceptability together with interpretation guide of its conceptual framework will facilitate convergence toward consensus of its definition among wider community of public health. It will also increase its relevance in designing, implementing or assessing any health intervention.	17-18
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review. The principal investigator is a self-funded PhD student. No funding for this article, the rest of his research project nor his studies	

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