

**PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol\***

Section and topic	Item No	Checklist item	Our Response
<b>ADMINISTRATIVE INFORMATION</b>			
Title:			A protocol for a living mapping review of global research funding for infectious diseases with a pandemic potential – PANDEMIC PACT
Identification	1a	Identify the report as a protocol of a systematic review	The report is a living mapping review.
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	No
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	Not registered
Authors:			
Contact	3a	Provide name,	Olena Seminog <sup>1</sup> , Rodrigo Furst <sup>1</sup> , Thomas Mendy <sup>1</sup> , Omid Rohanian <sup>2</sup> , Shanthi Levanita <sup>1</sup> , Zaharat Kadri- Alabi <sup>1</sup> , Nusrat Jabin <sup>3</sup> , Georgina

		institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	<p>Humphreys<sup>4</sup>, Emilia Antonio<sup>1</sup>, Adrian Bucher<sup>3</sup>, Alice Norton<sup>1*</sup></p> <ol style="list-style-type: none"> <li>1. Policy and Practice Research Group, Pandemic Sciences Institute, University of Oxford, UK</li> <li>2. UK Collaborative on Development Research, London, UK</li> <li>3. Computational Health Informatics Lab, Department of Engineering Science, University of Oxford, UK</li> <li>4. Green Templeton College, University of Oxford, UK</li> </ol> <p>*Denotes corresponding author</p> <p>Olena Seminog: <a href="mailto:Olena.seminog@ndm.ox.ac.uk">Olena.seminog@ndm.ox.ac.uk</a></p> <p>Rodrigo Furst: <a href="mailto:Rodrigo.furst@ndm.ox.ac.uk">Rodrigo.furst@ndm.ox.ac.uk</a></p> <p>Thomas Mendy: <a href="mailto:Thomas.mendy@ndm.ox.ac.uk">Thomas.mendy@ndm.ox.ac.uk</a></p> <p>Omid Rohanian: <a href="mailto:omid.rohanian@eng.ox.ac.uk">omid.rohanian@eng.ox.ac.uk</a></p> <p>Shanthi Levanita: <a href="mailto:shanthi.levanita@ndm.ox.ac.uk">shanthi.levanita@ndm.ox.ac.uk</a></p> <p>Zaharat Kadri-Alabi: <a href="mailto:zaharat.kadri-alabi@ndm.ox.ac.uk">zaharat.kadri-alabi@ndm.ox.ac.uk</a></p> <p>Nusrat Jabin: <a href="mailto:n.jabin@ukcdr.org.uk">n.jabin@ukcdr.org.uk</a></p> <p>Georgina Humphries: <a href="mailto:georgina.humphreys@gtc.ox.ac.uk">georgina.humphreys@gtc.ox.ac.uk</a></p> <p>Emilia Antonio: <a href="mailto:Emilia.antonio@ndm.ox.ac.uk">Emilia.antonio@ndm.ox.ac.uk</a></p> <p>Adrian Bucher: <a href="mailto:a.bucher@ukcdr.org.uk">a.bucher@ukcdr.org.uk</a></p> <p><u>Corresponding Author</u></p> <p><b>Alice Norton:</b> <a href="mailto:alice.norton@ndm.ox.ac.uk">alice.norton@ndm.ox.ac.uk</a>, University of Oxford, Nuffield Department of Population Health, Pandemic Sciences Institute Old Road Campus Research Building, Old Road, Roosevelt Drive, Oxford, OX3 7DQ</p>
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	AN conceptualised the protocol and is the guarantor of the review. OS drafted the first manuscript and produced all the tables. OS conceptualised and developed the data schema for the database. EA conceptualised and drafted the research category section. TM produced a graph and wrote the data management and data processes section. GH wrote a summary. RF led the development of the Data Coding Guidance. All authors contributed to writing and reviewing of the manuscript. All authors agreed on the final version of the manuscript and the submission.
Amendments	4	If the protocol represents an	No

		amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	
Support:			
Sources	5a	Indicate sources of financial or other support for the review	This work was supported by Wellcome [226543]. The Pandemic PACT Programme is supported by the following grants: This research was funded by the National Institute for Health Research (NIHR) (CSA2022GloPID-R -3387) using UK Aid from the UK Government to support global health research, as part of the EDCTP2 Programme supported by the European Union. This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada (109910 - 001). ] This work was supported by UK Research & Innovation (UKRI) under the UK Government's Horizon Europe Guarantee under GloPID-R SEC 3 Grant Agreement no. 10061268.
Sponsor	5b	Provide name for the review funder and/or sponsor	This work was supported by Wellcome [226543]. The Pandemic PACT Programme is supported by the following grants: This research was funded by the National Institute for Health Research (NIHR) (CSA2022GloPID-R -3387) using UK Aid from the UK Government to support global health research, as part of the EDCTP2 Programme supported by the European Union. This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada (109910 - 001). ] This work was supported by UK Research & Innovation (UKRI) under the UK Government's Horizon Europe Guarantee under GloPID-R SEC 3 Grant Agreement no. 10061268.
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or	Whilst the funders of Pandemic PACT are engaged through the Pandemic PACT Advisory Group and have a role in the provision of funding data, they are not involved in the analysis and presentation of related findings.

		institution(s), if any, in developing the protocol	
<b>INTRODUCTION</b>			
Rationale	6	Describe the rationale for the review in the context of what is already known	<p>The COVID CIRCLE initiative Research Project Tracker by UKCDR and GloPID-R and associated living mapping review (LMR) showed the importance of sharing and analysing data on research at the point of funding to improve coordination during a pandemic. This approach can also help with research preparedness for outbreaks and hence our new programme the Pandemic Preparedness: Analytical Capacity and Funding Tracking Programme (Pandemic PACT) has been established.</p> <p>The LMR described in this protocol will provide an open, accessible, near-real-time overview of the funding landscape for a wide range of infectious disease and pandemic preparedness research using a rich database. The underpinning database will feed into an online funding tracking dashboard, with visualisations and advanced exploration features. The database is the expansion of the previous UKCDR and GloPID-R COVID-19 Research Project database with addition of the priority diseases from the WHO Blueprint list plus initial additions of pandemic influenza, mpox and plague.</p> <p>Research funding for infectious diseases is constantly evolving, with an anticipated continuing expansion of funding for ‘priority diseases’. Whilst some research funding is provided for basic research during the inter-epidemic periods, funding organisations also respond to global or regional outbreaks, by releasing new funding or repurposing existing grants. Moreover, in outbreaks, funding calls often have short time intervals, and funding allocation might be influenced by rapidly changing research needs and environment. Hence, to offer consistent near real-time data we will update the LMR regularly (every six months). In the case of a major outbreak, we will produce an update as a matter of priority within this already established system of living mapping reviews.</p>
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes	<p>There are many pressing questions which we aim to answer in this LMR using the PANDEMIC PACT data, such as: Where are the gaps in the global distribution of research funding for infectious disease with a pandemic potential? To what extent is research funding aligned to the major research agendas and policy frameworks? Which funders are supporting infectious disease clinical trials globally and, specifically, in LMICs? The major advantage of building a public database is that important questions about individual diseases in terms of funding and research gaps, can be answered rapidly in times of outbreaks.</p>

		(PICO)	
<b>METHODS</b>			
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	<p><b><i>Eligibility criteria</i></b></p> <p>Research grants funded by any non-commercial research funding organisation are eligible for inclusion, for the initial scope. We aim to include a full breadth of research themes with grants on pandemic preparedness and/or outbreaks focusing on; medical sciences and health, social sciences, ethics, surveillance, capacity strengthening and others.</p> <p><b><i>Start date</i></b></p> <p>We will include grants with a start date on or after the 1<sup>st</sup> of January 2020, to align with the research funding efforts relating to COVID-19, and hence the start date for the predecessor dataset from COVID CIRCLE (5). If no information on the award or start date was available for a grant identified, it will not be included in the initial version of the database. We may review this inclusion criteria further as the database develops to explore how to use other available information for those grants that are missing the award/ start date.</p> <p><b><i>Funders</i></b></p> <p>For the initial version of the database, we are collecting available grant information from the funders of the GloPID-R and UKCDR memberships. The full list of these funders can be found in the Extended Data Table 1. Further funders will be identified from the previous COVID-19 funding database, or their association with other funders, including a joint funding venture, or being a part of a network of funders, or other professional groups or relationships for inclusion in the baseline analysis.</p> <p><b><i>Diseases</i></b></p> <p>We will initially include all diseases currently listed on the WHO R&amp;D Blueprint priority disease list plus pandemic influenza, mpox and plague (10). These WHO R&amp;D Blueprint priority diseases have been selected by WHO because they pose the greatest public health risk due to their epidemic potential or if there are no sufficient countermeasures to contain them. The list includes the following diseases: COVID-19; Crimean-Congo haemorrhagic fever; Ebola and Marburg virus disease; Lassa fever; Middle East respiratory syndrome coronavirus (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS); Nipah and henipaviral disease; Rift Valley fever; Zika virus disease and Disease “X”. Disease “X”, is a concept rather than a specific disease, which represents “the knowledge that a serious international outbreak could be caused by a pathogen currently unknown to cause human disease”. Additionally, we will include three further important diseases (pandemic influenza, mpox and plague), on advice from our expert advisory group.</p> <p><b><i>Language</i></b></p> <p>The search terms used are in English. However, we will not exclude grants in other languages. Hence, if our search returns any relevant grants in foreign languages, their title and abstract is translated using Google Translate, and they are included in the database. Other language search terms may be explored at a future date.</p>

			<p><i>Completeness of available grant information</i></p> <p>We included all grant records containing a minimal level of essential information: grant award or start date or publication date; funder name; grant ID or other form of identifier or grant title.</p>
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	<p><i>Data sources</i></p> <p>An inclusive and collaborative approach was applied to the data collection by holding consultations with the representatives from different funding organisations to agree on the preferred data collection modality. The data are collected in one of the two ways, either by online search and automated or manual scraping from funder websites, or via direct data provision from a minority of funders. Information about the source of the data is provided in the Extended Data Table 1 for the initial database, but this will expand prior to the baseline analysis.</p> <p><i>Direct data submission</i></p> <p>The database will remain open to new submissions related to the research grants for infectious diseases with pandemic potential from any non-commercial funder, via email and a custom-built data collection template (Extended Data Table 2) and direct data upload route on figshare). We will review all new submissions, include all relevant grants and update the database regularly.</p>
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	<p><i>Search strategy</i></p> <p>Search terms were developed and tested by working with colleagues in research funding organisations and other experts in the field. We included disease-specific keywords, acronyms, and expanded the terms to include the name of the virus and virus families (Table 1).</p> <p>The search words were tested on a sub-set of funders' research grant portals, namely the UK Research and Innovation (<a href="https://gtr.ukri.org/">https://gtr.ukri.org/</a>), the National Institutes of Health (<a href="https://reporter.nih.gov/">https://reporter.nih.gov/</a>), and Europe PMC (<a href="https://europepmc.org/grantfinder/">https://europepmc.org/grantfinder/</a>).</p> <p>A particularly challenging task was to identify grants for research on Disease "X", because the search results returned grants for genetic conditions and non-communicable disease. To optimise the search results to overcome these challenges, we undertook manual screening of all research grants returned from the search to identify those that might be relevant. In addition to the disease-specific research grants, we were interested in covering a broad range of themes related to pandemic and outbreak preparedness, including infectious disease research capacity strengthening, surveillance and ethics, going beyond a named disease. The list of search terms is available in Table 1 and Table 2.</p> <p>We are developing a Python code with these search terms, enabling us to query the backend of the grant databases and websites efficiently through API or by using web scraping technology like Selenium and WebDriver (code will be published on Git Hub once fully optimised).</p>

Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	<p><i>Data curation and management</i></p> <p>The database is designed so that the unit of analysis is a research grant. The research grant is linked to the funding organisation, research organisation and a named investigator, if known. There can be multiple values for organisations and investigators for each grant.</p> <p>Where possible, standardised lists and ontologies were used to populate variables to improve data interoperability (Table 3). From the PubMed Central, Snomed, ISO 3166-1 numeric and other standardised lists and vocabularies. In the database, we also recorded the names of funding organisations and research institutions using standardised lists – global list of funders (CrossRef ID) and Research Organisation Registry (ROR). We added an Open Researcher and Contributor ID (ORCID) (Ref <a href="https://orcid.org/">https://orcid.org/</a>) for the named investigators listed on the grant applications. In instances when no suitable standardised lists were identified, we adapted other popular ontologies and standardised nomenclature, including using PubMed MESH terms in the following variables – study subject, age group, rurality, vulnerable population, occupational group, clinical trial, ethnicity, country, region, research category, disease, pathogen, study type. Only a minority of variables were created empirically, based on our experience working with the COVID CIRCLE data. These are the broad research categories and research subcategories and tags.</p>
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	<p>The grants will be included if they have the key search terms and satisfy other inclusion criteria. Then, Data Manager and a researcher will review all the grants independently of each other. Selected grants will be entered into the RedCap platform where a team of researchers (currently &gt;7 people) will review each grant again. We developed and implemented a robust a system for raising queries and getting a second opinion.</p>
Data collection process	11c	Describe planned method of extracting	<p>Our researchers manually review all data entries to assign values to some variables in RedCap, when it was not possible to populate these fields automatically. We developed a Python code to extract grant information from funders websites. Second, we developed a data collection template for direct data provision from funders. Both approaches are coherent with each other and enable us to collect the same type of information.</p>

		data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators						
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	N	Variable name	Data format	Data Standard	Values	Notes
			1	PACTID	string	Non-standard, assigned internally	A combination of a letter character and numbers	
			2	Grant in Scope	binary	Non-standard, assigned internally		
			3	Grant Title Original	text	Non-standard		
			4	Grant Title Eng	text	Non-standard		
			5	Grant Number	text	Non-standard		As assigned by a funder
			6	Grant Amount Original	string	Non-standard		
			7	Grant Currency	string	ISO 4217 code		
			8	Currency Exchange Rate USD	numeric	Non-standard		Calculated using API and code
			9	Grant Amount Converted	numeric	Non-standard		
			10	Grant Type	text	Non-standard		
			11	Abstract Original	text	Non-standard		
			12	Abstract English	text	Non-standard		



			13	Lay Summary	text	Non-standard		
			14	ODA funding used	binary	Non-standard, assigned internally		Official Development Assistance (ODA)
			15	Grant Start Month	numeric	MM, ISO standard		
			16	Grant Start Year	numeric	YYYY, ISO standard		
			17	Grant End Month	numeric	MM, ISO standard		
			18	Grant End Year	numeric	YYYY, ISO standard		
			19	Publication Month of Award	numeric	MM, ISO standard		
			20	Publication Year of Award	numeric	YYYY, ISO standard		
			21	Grant Type	text	Non-standard	New Grant, Grant Extension	
			22	Study Subject	Text, Boolean	MESH Terms	Animals, bacteria, human populations, disease vectors, viruses, environment, other, unspecified, not applicable	
			23	Ethnicity	text, Boolean	Standard, UK Census	Asian, Black, White, Mixed, other, unspecified, not applicable	Optional field, populate if the grant is for research involving a specific ethnic group
			24	Age Groups	Text, Boolean	MESH Terms modified	Adolescent, 13-17 yrs Adults, 18+ Children, 1-12 yrs, Infants, 1mth-1yr, Newborn (<1mth) Older adults, 65+ Unspecified, not applicable	Optional field, populate if the grant is for research involving a specific age group
			25	Rurality	text, Boolean	MESH terms, modified	Rural population/setting, suburban population/setting, urban population/setting, other, unspecified, not applicable	Optional field, populate if the grant is for research on urban or rural populations or settings
			26	Vulnerable Populations	Text, Boolean	MESH Terms, modified	Disabled persons, drug users, Internally Displaced and Migrants, Indigenous People, Sexual and gender	Optional field, populate if the grant is for research

					minorities, Prisoners, Sex workers, Smokers, Women, Pregnant women, Individuals with multimorbidity, Minority communities unspecified, vulnerable populations unspecified, other, unspecified, not applicable	involving a specific vulnerable population group	
		27	Occupational Groups	Text, Boolean	MESH terms modified	Farmers, Emergency Responders, Military Personnel, Social workers, Caregivers, Health Personnel, Hospital personnel, Nurses and Nursing Staff, Physicians, Dentists and dental staff, Vets, Volunteers, other, unspecified, not applicable	Optional field, populate if the grant is for research involving a specific occupational group
		28	Study Type	Text, Boolean	Non-standard	Clinical, Non-clinical, other, unspecified, not applicable	If clinical is selected, then there is an option to select a clinical trial phase and design and record this information in a new field. If non-clinical is selected, then there is an option to choose a report or literature review in a new field
		29	Disease	numeric	Standard, SNOMED code	See the list of diseases. <a href="https://termbrowser.nhs.uk/">https://termbrowser.nhs.uk/</a>	
		30	Pathogen	numeric	Standard, SNOMED code	See the list of diseases. <a href="https://termbrowser.nhs.uk">https://termbrowser.nhs.uk</a>	
		31	Funder	text	Standard, CrossRef Open Funder Registry	<a href="https://www.crossref.org/services/funder-registry/">https://www.crossref.org/services/funder-registry/</a>	
		32	Funder Region	text	Standard, WHO region	<a href="https://en.wikipedia.org/wiki/List_of_WHO_regions">https://en.wikipedia.org/wiki/List_of_WHO_regions</a>	The region was assigned automatically based on the country of the funding organisation as listed in the global standard list
		33	Funder Country	numeric	ISO 3166-1 numeric	<a href="https://www.crossref.org/services/funder-registry/">https://www.crossref.org/services/funder-registry/</a>	Country information was pulled from the CrossRef Open Funder Registry
		34	Funder Acronym	text	Standard, CrossRef Open Funder Registry		Acronym was pulled from the CrossRef Open Funder Registry

			35	Investigator Title	text	Non-standard		
			36	Investigator First Name	text	Non-standard		
			37	Investigator Last Name	text	Non-standard		
			38	Investigator ORCID	string	Standard, ORCID ID number		Optional field. Researchers manually searched and entered the ORCID using the first and last name of the awardee.
			39	ROR ID	string	Standard, ROR ID	<a href="https://ror.org/">https://ror.org/</a>	Research Organisation Registry (ROR ID) for research institution
			40	Institution Name	text	Standard, ROR list of research institutions	<a href="https://ror.org/">https://ror.org/</a>	
			41	Institution Country	text	Standard, ROR list of research institutions	<a href="https://ror.org/">https://ror.org/</a>	
			42	Institution Country ISO	numeric	ISO 3166-1 numeric	<a href="https://www.iso.org/iso-3166-country-codes.html">https://www.iso.org/iso-3166-country-codes.html</a>	
			43	Research Institution Region	text	Standard, WHO region		The region was assigned by a data manager using information from the ROR list
			43	Partner Organisation Name	text	Non-standard		Information on the partner organisation is added if available in the grant abstract
			45	Research Location Country	text	Non-standard		Information on the location of research is added if available in the grant abstract. Otherwise, we used the country where the Research Institution is based
			46	Research Location	numeric	Standard, ISO		

				Country ISO		3166-1 numeric code		
			47	Research Location Region	text	Standard, WHO Region		Assigned based on the location of research is such information is available in the grant. Otherwise, we used the region where the Research Institution is based
			48	Tags	Text, Boolean	Non-standard	Data Management and Data Sharing, Digital Health, Innovation, Gender	The tags were assigned by researcher who reviewed the grants
			49	Research and Policy Roadmaps	Text, Boolean	Non-standard	100 Days Mission, WHO Surveillance, ESSENCE for Health	Mapping to selected roadmaps was done by researcher reviewing the grants
			50	Primary Research Category	string	Non-standard	12 broad research categories, each has a list of subcategories	Researchers reviewed each grant and assigned a broad research category and subcategory. Multiple values permitted
			51	Secondary Research Category	string	Non-standard	12 broad research categories, each has a list of subcategories	
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	Funded research projects aligned to our list of diseases and pandemic preparedness activities.					
Risk of bias in individual studies	14	Describe anticipated methods for	This protocol of funded research projects on infectious diseases with a pandemic potential uses descriptive and thematic analysis to summarise the scope of funded research projects. No attempts are made to assess the quality of individual studies or whether the studies					

		<p>assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis</p>	<p>meet their objectives. The potential sources of bias with project selection, quality of data reviewed, and data extraction and classification are addressed by robust fortnightly searches, template completion by funders and independent assessment and review during project classification respectively, as mentioned in the Information Sources and Search Strategy.</p> <p>While the intention of the database and subsequent analyses are to provide as comprehensive a picture as possible of the landscape of research on diseases with a pandemic potential, the data obtained for the database is more likely to be derived from funders of research that are members of UKCDR (all UK and broad disciplinary focus) and/or GloPID-R (global membership spanning high-income countries, or HICs, to low-income countries, or LICs, with a majority of national funders, and a biomedical focus). This will likely skew the results to show that more research being funded from these organisations and reflect trends in their respective portfolios (in terms of location, research focus and research activity type) than may necessarily be the case of the landscape more generally.</p> <p>An important limitation of the protocol is its inability to anticipate future challenges, particularly in light of the dynamic nature inherent to infectious disease outbreaks. Therefore, this protocol acknowledges that unforeseen challenges may emerge, necessitating adjustments, incorporations, or developments of more efficient data collection methods and coding strategies. To address this limitation, we commit to maintaining an adaptive approach, consistently updating the documentation of the database to accommodate modifications, incorporations, or discontinuations in response to evolving circumstances. Transparency will be maintained by accessible public documentation outlining all alterations and integrated processes.</p>
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	n/a
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from	n/a

		studies, including any planned exploration of consistency (such as $I^2$ , Kendall's $\tau$ )	
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	We will conduct analysis by year, geographical area, funding organisation, disease and pathogen, research category and research framework.
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	We will summarise information from different grants in a structured way using broad research categories and subcategories. Grants will be mapped to research frameworks.
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	n/a
Confidence in	17	Describe how	n/a

cumulative evidence		the strength of the body of evidence will be assessed (such as GRADE)	
---------------------	--	---	--

**\* It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**

*From: Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart L, PRISMA-P Group. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015 Jan 2;349(jan02 1):g7647.*