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Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

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**Best Practices for Community-Engaged Participatory Research with Pacific Islander
Communities in the US and USAPI: Protocol for a Scoping Review**

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Abstract

Introduction: Community-based participatory research is a partnership approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership. To date, no published article has synthesized the best practices for Community-based participatory research practices with Pacific Islanders.

Methods and Analysis: The reviewers will examine studies' titles, abstracts, and full-text, comparing eligibility to address discrepancies. For each eligible study, data extraction will be executed by two reviewers and one confirmation coder, comparing extracted data to address any discrepancies. Eligible data will be synthesized and reported in a narrative review assessing coverage and gaps in existing literature related to Community-based participatory research with Pacific Islanders.

Ethics and Dissemination: The purpose of this review is to identify best practices used when conducting Community-based participatory research with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on Community-based participatory research with Pacific Islanders. To facilitate dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with Community-based participatory research stakeholders.

Keywords: Community-based participatory research, Pacific Islanders, scoping review, community-engaged

Strengths and Limitations

- This is the first scoping review to address the literature on Community-based participatory research with Pacific Islanders.
- The review will provide a synthesis of existing studies, it will be useful to Community-based participatory partnerships with Pacific Islanders, and other collectivist cultures.
- This scoping review is focused on assessment of the coverage and gaps in the existing literature, so quality assessment of individual studies will not be a primary emphasis.

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

INTRODUCTION

Community-based participatory research (CBPR) is an approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership.¹⁻⁵ CBPR is not a specific research method but rather a realignment to research that seeks to foster an environment of shared power. This approach is in contrast to traditional research ontological positions wherein the academics are the experts conducting research with little input from the community being studied. The essential components of CBPR include: equitably including a specific community in all phases of research; building capacity within a community to drive the focus of the research that is of interest to community stakeholders; and implementing research that results in tangible action and directly improves the community's well-being.^{5,6} CBPR has demonstrated efficacy in building alliances to conduct research with disenfranchised communities.¹ Engaged research is referred to by other terms including action research, CBPR, and patient-centered research; the term CBPR will be used throughout this protocol.

BACKGROUND

Pacific Islanders are the second fastest growing population in the US, and grew 40% between 2000 and 2010.⁷⁻⁹ In addition to the continental US and Hawaii, many Pacific Islanders reside in the US Affiliated Pacific Islands (USAPI). The USAPI includes three US territories: American Samoa, the Commonwealth of the Northern Mariana Islands and Guam, and three independent countries in free association with the US: the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Pacific Islanders are underrepresented in health research, and much of the available research aggregates data from

1
2
3 Pacific Islanders and Asian Americans, obscuring the disparities between and within these two
4 heterogeneous populations.¹⁰⁻¹⁴ While data aggregation has limited the number of available data,
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6 existing research reveals profound health disparities among Pacific Islanders compared to the
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8 general US population.¹⁵⁻³⁹ These disparities include higher rates of diabetes, cardiovascular
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10 disease, obesity, and cancer.⁴⁰⁻⁴⁴ While national data about life expectancy is not available for
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12 Pacific Islanders due to aggregation,⁴⁵⁻⁴⁷ individual state and US territory data document life
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14 expectancy for Pacific Islanders as 68.3 years,⁴⁸ compared to the life expectancies of 78 years for
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16 non-Hispanic Whites and 79 years for the total US population.⁴⁷

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19 Pacific Islanders' health disparities can be attributed to many factors, including a history that
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21 has been marked by trauma, exploitation, and exclusion. Between 1946 and 1958, the US
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23 military detonated 67 fission and thermonuclear devices in the USAPI region, which were
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25 equivalent in payload to 7,200 Hiroshima-sized bombs.⁴⁹⁻⁵² These nuclear tests caused acute
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27 radiation exposure and subsequent illness, and contaminated the soil, ocean, and fresh water
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29 resources of the USAPI region of the Marshall Islands resulting in food insecurity and serious
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31 long-term health effects.^{50,52-59} After nuclear testing, the US began Project 4.1 in which Islanders
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33 who were exposed to nuclear fallout were interned in a camp in order to study the effects of
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35 radiation on humans.⁶⁰⁻⁶³ The research was conducted without the informed consent of the Pacific
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37 Islanders and without translation of the study information into the native language.⁵² This
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39 historical trauma has contributed to deep apprehension and distrust of western medicine and
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41 research.⁶⁴⁻⁶⁹ Historical trauma perpetuates ethical challenges that must be addressed in order to
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43 conduct research with Pacific Islanders.^{70,71}

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45 One way to address the effects of historical trauma on Pacific Islander communities'
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47 perceptions of research is through CBPR.^{70,71} CBPR shares power and builds trust between
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academic researchers and the community.^{72,73} To date, no published article has synthesized the best practices for CBPR practices with Pacific Islanders. This leaves an important gap in the literature as researchers seek to address the profound health disparities in the rapidly growing Pacific Islander population in the US.

OBJECTIVES

The aim of this scoping review is to examine the best practices for conducting CBPR with Pacific Islanders. The review will respond to the following question: What are the best practices for conducting community engaged-research with Pacific Islanders in the US and USAPI?

METHODS

The scoping review protocol was designed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P) statement.^{74,75}

Eligibility criteria

Studies will be selected according to the following criteria. (Table 1)

Table 1.

Participant population:	CBPR studies conducted with Pacific Islanders in the US or USAPI of any sex or age. Studies that aggregate Pacific Islander and Asian American data will be excluded. Study conducted with Pacific Islanders outside the US or USAPI will not be included.
Study type:	All types of studies focused on mental and/or physical health.
Outcomes:	CBPR challenges and best practices.
Context:	Articles that self-identify as using a CBPR approach (or other engaged research term such as action research or patient-centered research).
Study methods:	All types of studies (e.g., randomized controlled trials, mixed methods, cross sectional, descriptive, qualitative, case studies, etc.).

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3 Studies will be limited to research conducted with participants residing in the US and
4 USAPI. Studies published between 2000 and 2017 in peer-reviewed journals will be included in
5 the review. Only those studies that focus solely on Pacific Islanders will be included. Pacific
6 Islander subgroups include (but are not limited to): Marshallese, Samoan, Tongan, Chuukese,
7 Native Hawaiian, Samoan, Chamorro, and Maori. Studies that include Asian Americans
8 aggregated with Pacific Islanders will not be included. For the purposes of establishing study
9 eligibility, *CBPR* will be defined as an approach to research that seeks to equally involve
10 community stakeholders and academic partners in the research process in a mutually beneficial
11 partnership.⁶ Studies that self-identify as CBPR or a related term will be included.
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24 **Information sources**

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26 The following biomedical databases will be searched for articles meeting the eligibility
27 criteria and focused on English language items with 2000-2017 publication dates. These
28 databases include: MEDLINE (OVID), MEDLINE In Process & Daily Updates (OVID),
29 Cumulative Index to Nursing and Allied Health Literature-CINAHL Complete (EBSCO),
30 Science Citation Index, and Social Sciences Citation Index (both via Web of Science). The
31 search of All EBM Reviews (OVID) will include: ACP Journal Club, Cochrane Database of
32 Scoping Reviews, Databases of Abstracts of Reviews of Effects, Cochrane Central Register of
33 Controlled Trials, Cochrane Methodology Register, Health Technology Assessment, and the
34 NHS Economic Evaluation Database. The World Health Organization's Global Health Library
35 will also be searched for international items. Three researchers will review references for
36 inclusion.
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51 **Search strategy**

The search strategy will be developed by medical librarian co-author SS, in consultation with co-authors PM, BA, RP, and CL. Medical Subject Headings (MeSH) will be used and explored where appropriate to include specific headings under the MeSH terms. To obtain a comprehensive set of results, MeSH terminology will be combined with advanced textword searching techniques including truncation and adjacency searching. MeSH headings chosen to make up the base strategy include: exp Oceanic Ancestry Group/ AND Community-Based Participatory Research/. Controlled vocabulary headings will be combined with extensive strings with synonymous terms for each main concept. Pacific Islander terms include: ("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp. or ("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp. Similar synonymous terminology searching will be combined multiple ways to reach the CBPR concept. Controlled vocabulary headings, search strings and the overall strategy will be adapted as needed for other vendor platforms specific to the database used. These adapted strategies and terms may be requested from the corresponding author (PM). The search terms and strategy to be used from MEDLINE (via OVID) are presented in Appendix 1.

Data management

Search results will be exported, stored, and shared among co-authors using RefWorks (version 2.0),²¹ an Internet-based reference management service. Duplicate records will be removed from search results by using RefWorks' duplicate-check function with manual oversight prior to duplicate removal. De-duplicated records will be exported from RefWorks into a Microsoft Excel 2013 (version 15.0) spreadsheet to facilitate the study selection process.²²

Study selection process

The title and abstract of manuscripts will be reviewed to determine whether the study meets all the eligibility criteria. If the title and abstract of any manuscript do not provide enough information to confirm eligibility, the full article will be reviewed by two researchers to determine if it meets the inclusion criteria. If it is still unclear if the manuscript is eligible, a third reviewer will review the manuscript and a final decision will be made. In the event that multiple publications of a single eligible study are identified, both publications will be included. However, when tabulating quantitative results care will be taken to avoid double-counting single studies.

Data extraction process

Data extraction from each eligible study will be performed by two researchers independently. Then, they will compare the results of the extraction process. Discrepancies in extracted data will be discussed and resolved between the researchers; a third reviewer will be consulted if necessary. If data extraction for an eligible study cannot be completed due to inadequate description of the study in an article's full text, researchers will contact the publication's corresponding author via email (up to three attempts) to acquire the missing information. If there are multiple publications of a single eligible study, data will be extracted

from the multiple publications. In these cases, extracted data will be evaluated across publications for any inconsistencies. If inconsistencies are identified, researchers will attempt to resolve inconsistencies through discussion or by contacting the publications' corresponding author via email (up to three attempts). Before data extraction begins, researchers will pilot the extraction spreadsheet on a small sample of eligible studies and adjust the extraction spreadsheet or extraction procedures as necessary.

Data items

The following data will be extracted from each eligible article. (Table 2)

Table 2.

Participant population	<ul style="list-style-type: none"> • Race/ethnicity • Subgroup of Pacific Islander • Geographic location • Sex • Age group
Study design	<ul style="list-style-type: none"> • Randomized controlled trial • Case study • Etc.
Study method(s)	<ul style="list-style-type: none"> • Qualitative • Quantitative • Mixed methods • Etc.
Study setting	<ul style="list-style-type: none"> • Churches • Clinical setting • School systems • Community setting • Etc.
Best Practices	<ul style="list-style-type: none"> • Best practices related to CBPR design, implementation setting, individuals involved, and implementation process.

Publication details	<ul style="list-style-type: none"> • Authors • Article title • Journal title • Year of publication • Volume number • Issue number • Page numbers • Funding source • Was a community author identified
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Because this scoping review's focus is to assess the coverage and gaps in the literature about CBPR best practices with Pacific Islanders, quality assessment of individual eligible studies will not be a primary focus of the data extraction process.

Data synthesis

Data synthesis will include producing quantitative summaries of extracted data that include frequencies and percentages for many of the extracted data fields. For the Best Practices Field, the researchers, trained in qualitative methods, will begin by coding each segment of data using an inductive coding process to generate a list of emerging best practices. Then researchers will organize emergent codes into a code book that will be used to code each data segment. This process will help organize the data for focused thematic coding and allow the researchers to create salient summaries of best practices.^{76,77} These summaries will be utilized to present the convergent and divergent themes within the studies. Additionally, these summaries will allow us to identify gaps in the existing literature.

Discussion/Ethics & Dissemination

The purpose of this scoping review is to identify best practices used when conducting CBPR with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on CBPR with Pacific Islanders. For this reason, it will be useful to CBPR partnerships with Pacific Islanders, and other collectivist cultures. To facilitate

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3 dissemination, the results of this scoping review will be submitted for publication to a peer-
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5 reviewed journal, presented at conferences, and shared with CBPR stakeholders.
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8 **Authors' Contributions**

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10 PM, BA, RP, CL, KS, and ME designed the protocol, and SS developed the search
11 strategy in consultation with PM, BA, and RP. PM, BA, and RP drafted the protocol, and SS,
12 CL, and KS revised the protocol. All authors approved the current version of the protocol.
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23 **Competing Interests**

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25 The authors have no competing interests to declare.
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APPENDIX #1

MEDLINE SEARCH STRATEGY

Ovid MEDLINE(R) <1946 to August Week 1 2017>

#	Searches	Results	Type
1	exp Oceanic Ancestry Group/	8871	Advanced
2	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).ti,ab.	7465	Advanced
3	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).ti,ab.	14366	Advanced
4	1 or 2 or 3	28011	Advanced
5	exp Community-Based Participatory Research/	3400	Advanced
6	(action adj2 (inquiry or "oriented participatory research" or research or science)).ti,ab.	3657	Advanced
7	cbpr.ti,ab.	740	Advanced
8	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).ti,ab.	4565	Advanced
9	((participatory or "patient-centered" or "patient-centric") adj2 research).ti,ab.	3442	Advanced
10	5 or 6 or 7 or 8 or 9	12560	Advanced
11	4 and 10	292	Advanced
12	exp Oceanic Ancestry Group/	8871	Advanced
13	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or	10566	Advanced

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4	"kua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or		
5	lanai or "kaho'olawe" or kahoolawe or maui).mp.		
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7	("austral islands" or australasia or "caroline islands" or carolinian or chamorro		
8	or chuuk or chuukese or "cook islands" or "easter island" or fiji or fujian or		
9	"futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or		
10	kosraean or "mariana islander" or "mariana islands" or "marshall islands" or		
11	marshallese or melanesia or melanesian or micronesia or micronesian or "new	20125	Advanced
12	14 caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or		
13	palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix		
14	islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or		
15	polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa		
16	or samoan).mp.		
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20	15 12 or 13 or 14	36468	Advanced
21			
22	16 exp Community-Based Participatory Research/	3400	Advanced
23			
24	17 (action adj2 (inquiry or "oriented participatory research" or research or		
25	17 science)).mp.	3852	Advanced
26			
27			
28	18 cbpr.mp.	761	Advanced
29			
30	19 ((communit* or consumer*) adj2 (based or centered or driven or engaged or		
31	19 involved or partnered or wide) adj1 (research or studies or study)).mp.	4635	Advanced
32			
33	20 ((participatory or "patient-centered" or "patient-centric") adj2 research).mp.	5569	Advanced
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36	21 16 or 17 or 18 or 19 or 20	12931	Advanced
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38	22 15 and 21	326	Advanced
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40	23 limit 22 to yr="2000 - 2017"	304	Advanced
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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	Page Addressed
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	N/A
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	N/A
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	5
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	N/A
Support:			
Sources	5a	Indicate sources of financial or other support for the review	9
Sponsor	5b	Provide name for the review funder and/or sponsor	N/A
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	N/A
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	1-3
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	3
METHODS			
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	3-5
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	3-5
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	Appendix A

		repeated	
Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	6
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)	6-7
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	6-8
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	8-9
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	5-7
Risk of bias in individual studies	14	Describe anticipated methods for 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	6-8
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	3-5
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	N/A
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	N/A
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	6-8
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 cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	N/A

*From: Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ*. 2015;349:g7647.

BMJ Open

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

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Primary Subject Heading:	Health policy
Secondary Subject Heading:	Diabetes and endocrinology
Keywords:	Community-based participatory research, Pacific Islanders, scoping review, community-engaged

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**Best Practices for Community-Engaged Participatory Research with Pacific Islander
Communities in the US and USAPI: Protocol for a Scoping Review**

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Abstract

Introduction: Community-based participatory research is a partnership approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership. To date, no published article has synthesized the best practices for Community-based participatory research practices with Pacific Islanders.

Methods and Analysis: The reviewers will examine studies' titles, abstracts, and full-text, comparing eligibility to address discrepancies. For each eligible study, data extraction will be executed by two reviewers and one confirmation coder, comparing extracted data to address any discrepancies. Eligible data will be synthesized and reported in a narrative review assessing coverage and gaps in existing literature related to Community-based participatory research with Pacific Islanders.

Ethics and Dissemination: The purpose of this review is to identify best practices used when conducting Community-based participatory research with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on Community-based participatory research with Pacific Islanders. To facilitate dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with Community-based participatory research stakeholders.

Keywords: Community-based participatory research, Pacific Islanders, scoping review, community-engaged

Strengths and Limitations

- This is the first scoping review to address the literature on Community-based participatory research with Pacific Islanders.
- The review will provide a synthesis of existing studies, it will be useful to Community-based participatory partnerships with Pacific Islanders, and other collectivist cultures.
- This scoping review is focused on assessment of the coverage and gaps in the existing literature, so quality assessment of individual studies will not be a primary emphasis.

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

INTRODUCTION

Community-based participatory research (CBPR) is an approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership.¹⁻⁵ CBPR is not a specific research method but rather a realignment to research that seeks to foster an environment of shared power. This approach is in contrast to traditional research ontological positions wherein the academics are the experts conducting research with little input from the community being studied. The essential components of CBPR include: equitably including a specific community in all phases of research; building capacity within a community to drive the focus of the research that is of interest to community stakeholders; and implementing research that results in tangible action and directly improves the community's well-being.^{5,6} CBPR has demonstrated efficacy in building alliances to conduct research with disenfranchised communities.¹ Engaged research is referred to by other terms including action research, CBPR, and patient-centered research; the term CBPR will be used throughout this protocol.

BACKGROUND

Pacific Islanders are the second fastest growing population in the US, and grew 40% between 2000 and 2010.⁷⁻⁹ In addition to the continental US and Hawaii, many Pacific Islanders reside in the US Affiliated Pacific Islands (USAPI). The USAPI includes three US territories: American Samoa, the Commonwealth of the Northern Mariana Islands and Guam, and three independent countries in free association with the US: the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Pacific Islanders are underrepresented in health research, and much of the available research aggregates data from

1
2
3 Pacific Islanders and Asian Americans, obscuring the disparities between and within these two
4 heterogeneous populations.¹⁰⁻¹⁴ While data aggregation has limited the number of available data,
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6 existing research reveals profound health disparities among Pacific Islanders compared to the
7
8 general US population.¹⁵⁻³⁹ These disparities include higher rates of diabetes, cardiovascular
9
10 disease, obesity, and cancer.⁴⁰⁻⁴⁴ While national data about life expectancy is not available for
11
12 Pacific Islanders due to aggregation,⁴⁵⁻⁴⁷ individual state and US territory data document life
13
14 expectancy for Pacific Islanders as 68.3 years,⁴⁸ compared to the life expectancies of 78 years for
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16 non-Hispanic Whites and 79 years for the total US population.⁴⁷

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19 Pacific Islanders' health disparities can be attributed to many factors, including a history that
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21 has been marked by trauma, exploitation, and exclusion. Between 1946 and 1958, the US
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23 military detonated 67 fission and thermonuclear devices in the USAPI region, which were
24
25 equivalent in payload to 7,200 Hiroshima-sized bombs.⁴⁹⁻⁵² These nuclear tests caused acute
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27 radiation exposure and subsequent illness, and contaminated the soil, ocean, and fresh water
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29 resources of the USAPI region of the Marshall Islands resulting in food insecurity and serious
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31 long-term health effects.^{50,52-59} After nuclear testing, the US began Project 4.1 in which Islanders
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33 who were exposed to nuclear fallout were interned in a camp in order to study the effects of
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35 radiation on humans.⁶⁰⁻⁶³ The research was conducted without the informed consent of the Pacific
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37 Islanders and without translation of the study information into the native language.⁵² This
38
39 historical trauma has contributed to deep apprehension and distrust of western medicine and
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41 research.⁶⁴⁻⁶⁹ Historical trauma perpetuates ethical challenges that must be addressed in order to
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43 conduct research with Pacific Islanders.^{70,71}

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45 One way to address the effects of historical trauma on Pacific Islander communities'
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47 perceptions of research is through CBPR.^{70,71} CBPR shares power and builds trust between
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academic researchers and the community.^{72,73} To date, no published article has synthesized the best practices for CBPR practices with Pacific Islanders. This leaves an important gap in the literature as researchers seek to address the profound health disparities in the rapidly growing Pacific Islander population in the US.

OBJECTIVES

The aim of this scoping review is to examine the best practices for conducting CBPR with Pacific Islanders. Information from the review can be used to guide CBPR research focused on addressing the health disparities among Pacific Islanders. The review will respond to the following question: What are the best practices for conducting community engaged-research with Pacific Islanders in the US and USAPI?

METHODS

The scoping review protocol was designed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P) statement.^{74,75}

Eligibility criteria

Studies will be selected according to the following criteria. (Table 1)

Table 1.

Participant population:	CBPR studies conducted with Pacific Islanders in the US or USAPI of any sex or age. Studies that aggregate Pacific Islander and Asian American data will be excluded. Study conducted with Pacific Islanders outside the US or USAPI will not be included.
Study type:	All types of studies focused on mental and/or physical health.
Outcomes:	CBPR challenges and best practices.
Context:	Articles that self-identify as using a CBPR approach (or other engaged research term such as action research or patient-centered research).
Study methods:	All types of studies (e.g., randomized controlled trials, mixed methods, cross sectional, descriptive, qualitative, case studies, etc.).

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Studies will be limited to research conducted with participants residing in the US and USAPI. Studies published between January of 2000 and December of 2017 in peer-reviewed journals will be included in the review. Only those studies that focus solely on Pacific Islanders will be included. Pacific Islander subgroups include (but are not limited to): Chamorro, Chuukese, Maori, Marshallese, Native Hawaiian, Samoan, and Tongan. Studies that include Asian Americans aggregated with Pacific Islanders will not be included. For the purposes of establishing study eligibility, *CBPR* will be defined as an approach to research that seeks to equally involve community stakeholders and academic partners in the research process in a mutually beneficial partnership.⁶ Studies that self-identify as *CBPR* or a related term will be included.

Information sources

The following biomedical databases will be searched for articles meeting the eligibility criteria and focused on English language items with 2000-2017 publication dates. These databases include: MEDLINE (OVID), MEDLINE In Process & Daily Updates (OVID), Cumulative Index to Nursing and Allied Health Literature-CINAHL Complete (EBSCO), Science Citation Index, and Social Sciences Citation Index (both via Web of Science). The search of All EBM Reviews (OVID) will include: ACP Journal Club, Cochrane Database of Scoping Reviews, Databases of Abstracts of Reviews of Effects, Cochrane Central Register of Controlled Trials, Cochrane Methodology Register, Health Technology Assessment, and the NHS Economic Evaluation Database. The World Health Organization's Global Health Library will also be searched for international items. Three researchers will review references for inclusion.

Search strategy

The search strategy will be developed by medical librarian co-author SS, in consultation with co-authors PM, BA, RP, and CL. Medical Subject Headings (MeSH) will be used and explored where appropriate to include specific headings under the MeSH terms. To obtain a comprehensive set of results, MeSH terminology will be combined with advanced textword searching techniques including truncation and adjacency searching. MeSH headings chosen to make up the base strategy include: exp Oceanic Ancestry Group/ AND Community-Based Participatory Research/. Controlled vocabulary headings will be combined with extensive strings with synonymous terms for each main concept. Pacific Islander terms include: ("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp. or ("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp. Similar synonymous terminology searching will be combined multiple ways to reach the CBPR concept. Controlled vocabulary headings, search strings and the overall strategy will be adapted as needed for other vendor platforms specific to the database used. These adapted strategies and terms may be requested

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2
3 from the corresponding author (PM). The search terms and strategy to be used from MEDLINE
4 (via OVID) are presented in Appendix 1.
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7 **Data management**

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10 Search results will be exported, stored, and shared among co-authors using RefWorks
11 (version 2.0),²¹ an Internet-based reference management service. Duplicate records will be
12 removed from search results by using RefWorks' duplicate-check function with manual
13 oversight prior to duplicate removal. De-duplicated records will be exported from RefWorks into
14 a Microsoft Excel 2013 (version 15.0) spreadsheet to facilitate the study selection process.²²
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20 **Study selection process**

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22 The title and abstract of manuscripts will be reviewed to determine whether the study
23 meets all the eligibility criteria. If the title and abstract of any manuscript do not provide enough
24 information to confirm eligibility, the full article will be reviewed by two researchers to
25 determine if it meets the inclusion criteria. If it is still unclear if the manuscript is eligible, a third
26 reviewer will review the manuscript and a final decision will be made. In the event that multiple
27 publications of a single eligible study are identified, both publications will be included.
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29 However, when tabulating quantitative results care will be taken to avoid double-counting single
30 studies.
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42 **Data extraction process**

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44 Data extraction from each eligible study will be performed by two researchers
45 independently. Then, they will compare the results of the extraction process. Discrepancies in
46 extracted data will be discussed and resolved between the researchers; a third reviewer will be
47 consulted if necessary. If data extraction for an eligible study cannot be completed due to
48 inadequate description of the study in an article's full text, researchers will contact the
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publication's corresponding author via email (up to three attempts) to acquire the missing information. If there are multiple publications of a single eligible study, data will be extracted from the multiple publications. In these cases, extracted data will be evaluated across publications for any inconsistencies. If inconsistencies are identified, researchers will attempt to resolve inconsistencies through discussion or by contacting the publications' corresponding author via email (up to three attempts). Before data extraction begins, researchers will pilot the extraction spreadsheet on a small sample of eligible studies and adjust the extraction spreadsheet or extraction procedures as necessary.

Data items

The following data will be extracted from each eligible article. (Table 2)

Table 2.

Participant population	<ul style="list-style-type: none"> • Race/ethnicity • Subgroup of Pacific Islander • Geographic location • Sex • Age group
Study design	<ul style="list-style-type: none"> • Randomized controlled trial • Case study • Etc.
Study method(s)	<ul style="list-style-type: none"> • Qualitative • Quantitative • Mixed methods • Etc.
Study setting	<ul style="list-style-type: none"> • Churches • Clinical setting • School systems • Community setting • Etc.
Best Practices	<ul style="list-style-type: none"> • Best practices related to CBPR design, implementation setting, individuals involved, and implementation process.

Publication details	<ul style="list-style-type: none"> • Authors • Article title • Journal title • Year of publication • Volume number • Issue number • Page numbers • Funding source • Was a community author identified
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Because this scoping review's focus is to assess the coverage and gaps in the literature about CBPR best practices with Pacific Islanders, quality assessment of individual eligible studies will not be a primary focus of the data extraction process.

Data synthesis

Data synthesis will include producing quantitative summaries of extracted data that include frequencies and percentages for many of the extracted data fields. For the Best Practices Field, the researchers, trained in qualitative methods, will begin by coding each segment of data using an inductive coding process to generate a list of emerging best practices. Then researchers will organize emergent codes into a code book that will be used to code each data segment. This process will help organize the data for focused thematic coding and allow the researchers to create salient summaries of best practices.^{76,77} These summaries will be utilized to present the convergent and divergent themes within the studies. Additionally, these summaries will allow us to identify gaps in the existing literature.

Discussion/Ethics & Dissemination

The purpose of this scoping review is to identify best practices used when conducting CBPR with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on CBPR with Pacific Islanders. For this reason, it will be useful to CBPR partnerships with Pacific Islanders that are seeking to address the profound

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3 health disparities in the rapidly growing Pacific Islander population. To facilitate dissemination,
4 the results of this scoping review will be submitted for publication to a peer-reviewed journal,
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6 presented at conferences, and shared with CBPR stakeholders.
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10 **Authors' Contributions**

11
12 PM, BA, RP, CL, KS, and ME designed the protocol, and SS developed the search
13 strategy in consultation with PM, BA, and RP. PM, BA, and RP drafted the protocol, and SS,
14
15 CL, and KS revised the protocol. All authors approved the current version of the protocol.
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21
22 This research received no specific grant from any funding agency in the public,
23 commercial, or not-for-profit sectors.
24
25
26

27 **Competing Interests**

28
29 The authors have no competing interests to declare.
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APPENDIX #1

MEDLINE SEARCH STRATEGY

Ovid MEDLINE(R) <1946 to August Week 1 2017>

#	Searches	Results	Type
1	exp Oceanic Ancestry Group/	8871	Advanced
2	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "Iana'i" or lanai or "kaho'olawe" or kahoolawe or maui).ti,ab.	7465	Advanced
3	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).ti,ab.	14366	Advanced
4	1 or 2 or 3	28011	Advanced
5	exp Community-Based Participatory Research/	3400	Advanced
6	(action adj2 (inquiry or "oriented participatory research" or research or science)).ti,ab.	3657	Advanced
7	cbpr.ti,ab.	740	Advanced
8	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).ti,ab.	4565	Advanced
9	((participatory or "patient-centered" or "patient-centric") adj2 research).ti,ab.	3442	Advanced
10	5 or 6 or 7 or 8 or 9	12560	Advanced
11	4 and 10	292	Advanced
12	exp Oceanic Ancestry Group/	8871	Advanced

13	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp.	10566	Advanced
14	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp.	20125	Advanced
15	12 or 13 or 14	36468	Advanced
16	exp Community-Based Participatory Research/	3400	Advanced
17	(action adj2 (inquiry or "oriented participatory research" or research or science)).mp.	3852	Advanced
18	cbpr.mp.	761	Advanced
19	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).mp.	4635	Advanced
20	((participatory or "patient-centered" or "patient-centric") adj2 research).mp.	5569	Advanced
21	16 or 17 or 18 or 19 or 20	12931	Advanced
22	15 and 21	326	Advanced
23	limit 22 to yr="2000 - 2017"	304	Advanced

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	Page Addressed
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	N/A
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	N/A
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	5
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	N/A
Support:			
Sources	5a	Indicate sources of financial or other support for the review	9
Sponsor	5b	Provide name for the review funder and/or sponsor	N/A
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	N/A
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	1-3
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	3
METHODS			
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	3-5
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	3-5
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	Appendix A

		repeated	
Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	6
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)	6-7
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	6-8
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	8-9
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	5-7
Risk of bias in individual studies	14	Describe anticipated methods for 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	6-8
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	3-5
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	N/A
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	N/A
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	6-8
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 cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	N/A

*From: Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ*. 2015;349:g7647.

BMJ Open

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

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Primary Subject Heading:	Health policy
Secondary Subject Heading:	Diabetes and endocrinology
Keywords:	Community-based participatory research, Pacific Islanders, scoping review, community-engaged

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**Best Practices for Community-Engaged Participatory Research with Pacific Islander
Communities in the US and USAPI: Protocol for a Scoping Review**

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Abstract

Introduction: Community-based participatory research is a partnership approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership. To date, no published article has synthesized the best practices for Community-based participatory research practices with Pacific Islanders.

Methods and Analysis: The reviewers will examine studies' titles, abstracts, and full-text, comparing eligibility to address discrepancies. For each eligible study, data extraction will be executed by two reviewers and one confirmation coder, comparing extracted data to address any discrepancies. Eligible data will be synthesized and reported in a narrative review assessing coverage and gaps in existing literature related to Community-based participatory research with Pacific Islanders.

Discussion and Dissemination: The purpose of this review is to identify best practices used when conducting Community-based participatory research with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on Community-based participatory research with Pacific Islanders. To facilitate dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with Community-based participatory research stakeholders.

Keywords: Community-based participatory research, Pacific Islanders, scoping review, community-engaged

Strengths and Limitations

- This is the first scoping review to address the literature on Community-based participatory research with Pacific Islanders.
- The review will provide a synthesis of existing studies, it will be useful to Community-based participatory partnerships with Pacific Islanders, and other collectivist cultures.
- This scoping review is focused on assessment of the coverage and gaps in the existing literature, so quality assessment of individual studies will not be a primary emphasis.

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

INTRODUCTION

Community-based participatory research (CBPR) is an approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership.¹⁻⁵ CBPR is not a specific research method but rather a realignment to research that seeks to foster an environment of shared power. This approach is in contrast to traditional research ontological positions wherein the academics are the experts conducting research with little input from the community being studied. The essential components of CBPR include: equitably including a specific community in all phases of research; building capacity within a community to drive the focus of the research that is of interest to community stakeholders; and implementing research that results in tangible action and directly improves the community's well-being.^{5,6} CBPR has demonstrated efficacy in building alliances to conduct research with disenfranchised communities.¹ Engaged research is referred to by other terms including action research, CBPR, and patient-centered research; the term CBPR will be used throughout this protocol.

BACKGROUND

Pacific Islanders are the second fastest growing population in the US, and grew 40% between 2000 and 2010.⁷⁻⁹ In addition to the continental US and Hawaii, many Pacific Islanders reside in the US Affiliated Pacific Islands (USAPI). The USAPI includes three US territories: American Samoa, the Commonwealth of the Northern Mariana Islands and Guam, and three independent countries in free association with the US: the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Pacific Islanders are underrepresented in health research, and much of the available research aggregates data from

Pacific Islanders and Asian Americans, obscuring the disparities between and within these two heterogeneous populations.¹⁰⁻¹⁴ While data aggregation has limited the number of available data, existing research reveals profound health disparities among Pacific Islanders compared to the general US population.¹⁵⁻³⁹ These disparities include higher rates of diabetes, cardiovascular disease, obesity, and cancer.⁴⁰⁻⁴⁴ While national data about life expectancy is not available for Pacific Islanders due to aggregation,⁴⁵⁻⁴⁷ individual state and US territory data document life expectancy for Pacific Islanders as 68.3 years,⁴⁸ compared to the life expectancies of 78 years for non-Hispanic Whites and 79 years for the total US population.⁴⁷

Pacific Islanders' health disparities can be attributed to many factors, including a history that has been marked by trauma, exploitation, and exclusion. Between 1946 and 1958, the US military detonated 67 fission and thermonuclear devices in the USAPI region, which were equivalent in payload to 7,200 Hiroshima-sized bombs.⁴⁹⁻⁵² These nuclear tests caused acute radiation exposure and subsequent illness, and contaminated the soil, ocean, and fresh water resources of the USAPI region of the Marshall Islands resulting in food insecurity and serious long-term health effects.^{50,52-59} After nuclear testing, the US began Project 4.1 in which Islanders who were exposed to nuclear fallout were interned in a camp in order to study the effects of radiation on humans.⁶⁰⁻⁶³ The research was conducted without the informed consent of the Pacific Islanders and without translation of the study information into the native language.⁵² This historical trauma has contributed to deep apprehension and distrust of western medicine and research.⁶⁴⁻⁶⁹ Historical trauma perpetuates ethical challenges that must be addressed in order to conduct research with Pacific Islanders.^{70,71}

One way to address the effects of historical trauma on Pacific Islander communities' perceptions of research is through CBPR.^{70,71} CBPR shares power and builds trust between

academic researchers and the community.^{72,73} There is evidence for the effectiveness of using CBPR to engage minority, immigrant, and migrant populations in research to reduce health disparities.⁷⁴⁻⁷⁹ In addition, there is evidence for the effectiveness of using CBPR to reduce health disparities in populations that have experienced historical trauma.⁸⁰ To date, no published article has synthesized the best practices for CBPR practices with Pacific Islanders. This leaves an important gap in the literature as researchers seek to address the profound health disparities in the rapidly growing Pacific Islander population in the US.

OBJECTIVES

The aim of this scoping review is to examine the best practices for conducting CBPR with Pacific Islanders. Information from the review can be used to guide CBPR research focused on addressing the health disparities among Pacific Islanders. The review will respond to the following question: What are the effective best practices identified by previous CBPR researchers for conducting community engaged-research with Pacific Islanders in the US and USAPI? Best practices are defined as the methods identified as most effective (i.e. successful) by CBPR researchers across multiple studies as outlined by Israel et al (2012).⁸¹

METHODS

The scoping review protocol was designed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P) statement.^{82,83}

Eligibility criteria

Studies will be selected according to the following criteria. (Table 1)

Table 1.

Participant population:	CBPR studies conducted with Pacific Islanders in the US or USAPI of any sex or age. Studies that aggregate Pacific Islander and Asian American data will be excluded. Study conducted with Pacific
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	Islanders outside the US or USAPI will not be included.
Study type:	All types of studies focused on mental and/or physical health.
Outcomes:	CBPR challenges and best practices.
Context:	Articles that self-identify as using a CBPR approach (or other engaged research term such as action research or patient-centered research).
Study methods:	All types of studies (e.g., randomized controlled trials, mixed methods, cross sectional, descriptive, qualitative, case studies, etc.).

Studies will be limited to research conducted with participants residing in the US and USAPI. Studies published between January of 2000 and December of 2017 in peer-reviewed journals will be included in the review. Only those studies that focus solely on Pacific Islanders will be included. Pacific Islander subgroups include (but are not limited to): Chamorro, Chuukese, Maori, Marshallese, Native Hawaiian, Samoan, and Tongan. Studies that include Asian Americans aggregated with Pacific Islanders will not be included. For the purposes of establishing study eligibility, *CBPR* will be defined as an approach to research that seeks to equally involve community stakeholders and academic partners in the research process in a mutually beneficial partnership.⁶ Studies that self-identify as CBPR or a related term will be included.

Information sources

The following biomedical databases will be searched for articles meeting the eligibility criteria and focused on English language items with 2000-2017 publication dates. These databases include: MEDLINE (OVID), MEDLINE In Process & Daily Updates (OVID), Cumulative Index to Nursing and Allied Health Literature-CINAHL Complete (EBSCO), Science Citation Index, and Social Sciences Citation Index (both via Web of Science). The search of All EBM Reviews (OVID) will include: ACP Journal Club, Cochrane Database of

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3 Scoping Reviews, Databases of Abstracts of Reviews of Effects, Cochrane Central Register of
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5 Controlled Trials, Cochrane Methodology Register, Health Technology Assessment, and the
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7 NHS Economic Evaluation Database. The World Health Organization's Global Health Library
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9 will also be searched for international items. Three researchers will review references for
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11 inclusion.
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14 **Search strategy**

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17 The search strategy will be developed by medical librarian co-author SS, in consultation
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19 with co-authors PM, BA, RP, and CL. Medical Subject Headings (MeSH) will be used and
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21 explored where appropriate to include specific headings under the MeSH terms. To obtain a
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23 comprehensive set of results, MeSH terminology will be combined with advanced textword
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25 searching techniques including truncation and adjacency searching. MeSH headings chosen to
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27 make up the base strategy include: exp Oceanic Ancestry Group/ AND Community-Based
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29 Participatory Research/. Controlled vocabulary headings will be combined with extensive
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31 strings with synonymous terms for each main concept. Pacific Islander terms include: ("pacific
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33 islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or
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35 oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp. or
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37 ("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or
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39 chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or
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41 guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana
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43 islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or
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45 micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands"
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47 or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or
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49 "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or
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3 saipanesse or "american samoa" or samoa or samoan).mp. Similar synonymous terminology
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5 searching will be combined multiple ways to reach the CBPR concept. Controlled vocabulary
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7 headings, search strings and the overall strategy will be adapted as needed for other vendor
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9 platforms specific to the database used. These adapted strategies and terms may be requested
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11 from the corresponding author (PM). The search terms and strategy to be used from MEDLINE
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13 (via OVID) are presented in Appendix 1.
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16 17 **Data management**

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19 Search results will be exported, stored, and shared among co-authors using RefWorks
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21 (version 2.0),²¹ an Internet-based reference management service. Duplicate records will be
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23 removed from search results by using RefWorks' duplicate-check function with manual
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25 oversight prior to duplicate removal. De-duplicated records will be exported from RefWorks into
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27 a Microsoft Excel 2013 (version 15.0) spreadsheet to facilitate the study selection process.²²
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31 **Study selection process**

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33 The title and abstract of manuscripts will be reviewed to determine whether the study
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35 meets all the eligibility criteria. If the title and abstract of any manuscript do not provide enough
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37 information to confirm eligibility, the full article will be reviewed by two researchers to
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39 determine if it meets the inclusion criteria. If it is still unclear if the manuscript is eligible, a third
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41 reviewer will review the manuscript and a final decision will be made. In the event that multiple
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43 publications of a single eligible study are identified, both publications will be included.
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45 However, when tabulating quantitative results care will be taken to avoid double-counting single
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47 studies.
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51 **Data extraction process**

Data extraction from each eligible study will be performed by two researchers independently. Then, they will compare the results of the extraction process. Discrepancies in extracted data will be discussed and resolved between the researchers; a third reviewer will be consulted if necessary. If data extraction for an eligible study cannot be completed due to inadequate description of the study in an article's full text, researchers will contact the publication's corresponding author via email (up to three attempts) to acquire the missing information. If there are multiple publications of a single eligible study, data will be extracted from the multiple publications. In these cases, extracted data will be evaluated across publications for any inconsistencies. If inconsistencies are identified, researchers will attempt to resolve inconsistencies through discussion or by contacting the publications' corresponding author via email (up to three attempts). Before data extraction begins, researchers will pilot the extraction spreadsheet on a small sample of eligible studies and adjust the extraction spreadsheet or extraction procedures as necessary.

Data items

The following data will be extracted from each eligible article. (Table 2)

Table 2.

Participant population	<ul style="list-style-type: none"> • Race/ethnicity • Subgroup of Pacific Islander • Geographic location • Sex • Age group
Study design	<ul style="list-style-type: none"> • Randomized controlled trial • Case study • Etc.
Study method(s)	<ul style="list-style-type: none"> • Qualitative • Quantitative • Mixed methods • Etc.
Study setting	<ul style="list-style-type: none"> • Churches

	<ul style="list-style-type: none"> • Clinical setting • School systems • Community setting • Etc.
Best Practices	<ul style="list-style-type: none"> • Best practices related to CBPR design, implementation setting, individuals involved, and implementation process (e.g. recruitment, data collection, retention, dissemination).
Publication details	<ul style="list-style-type: none"> • Authors • Article title • Journal title • Year of publication • Volume number • Issue number • Page numbers • Funding source • Was a community author identified

Because this scoping review's focus is to assess the coverage and gaps in the literature about CBPR best practices with Pacific Islanders, quality assessment of individual eligible studies will not be a primary focus of the data extraction process.

Data synthesis

Data synthesis will include producing quantitative summaries of extracted data that include frequencies and percentages for many of the extracted data fields. For the Best Practices Field, the researchers, trained in qualitative methods, will begin by coding each segment of data using an inductive coding process to generate a list of emerging best practices. Then researchers will organize emergent codes into a code book that will be used to code each data segment. This process will help organize the data for focused thematic coding and allow the researchers to create salient summaries of best practices.^{84,85} These summaries will be utilized to present the

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3 convergent and divergent themes within the studies. Additionally, these summaries will allow us
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5 to identify gaps in the existing literature.
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8 **Discussion**

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10 The purpose of this scoping review is to identify best practices used when conducting
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12 CBPR with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature.
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14 This will be the first scoping review on CBPR with Pacific Islanders The article will expand the
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16 available knowledge on CBPR methods which have shown success in reducing health disparities
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18 in African American, Hispanic/Latino, and other minority groups.⁷⁴⁻⁸⁰ For this reason, it will be
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20 useful to CBPR partnerships with Pacific Islanders that are seeking to address the profound
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22 health disparities in the rapidly growing Pacific Islander population. The outcome of this article
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24 can serve as a guide for researchers and community members seeking to address health
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26 disparities in diverse Pacific Islander communities. For example, those seeking to address a wide
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28 variety of health conditions from Hansen's disease to obesity, can use the cumulative best
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30 practices in the scoping review to guide their CBPR methods including engagement, recruitment,
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32 data collection, retention and dissemination.
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38 **Dissemination**

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41 To facilitate dissemination, the results of this scoping review will be submitted for
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43 publication to a peer-reviewed journal, presented at conferences, and shared with CBPR
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45 stakeholders.
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48 **Authors' Contributions**

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50 PM, BA, RP, CL, KS, and ME designed the protocol, and SS developed the search
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52 strategy in consultation with PM, BA, and RP. PM, BA, and RP drafted the protocol, and SS,
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54 CL, and KS revised the protocol. All authors approved the current version of the protocol.
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Competing Interests

The authors have no competing interests to declare.

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APPENDIX #1

MEDLINE SEARCH STRATEGY

Ovid MEDLINE(R) <1946 to August Week 1 2017>

#	Searches	Results	Type
1	exp Oceanic Ancestry Group/	8871	Advanced
2	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "Iana'i" or lanai or "kaho'olawe" or kahoolawe or maui).ti,ab.	7465	Advanced
3	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).ti,ab.	14366	Advanced
4	1 or 2 or 3	28011	Advanced
5	exp Community-Based Participatory Research/	3400	Advanced
6	(action adj2 (inquiry or "oriented participatory research" or research or science)).ti,ab.	3657	Advanced
7	cbpr.ti,ab.	740	Advanced
8	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).ti,ab.	4565	Advanced
9	((participatory or "patient-centered" or "patient-centric") adj2 research).ti,ab.	3442	Advanced
10	5 or 6 or 7 or 8 or 9	12560	Advanced
11	4 and 10	292	Advanced
12	exp Oceanic Ancestry Group/	8871	Advanced

13	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp.	10566	Advanced
14	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp.	20125	Advanced
15	12 or 13 or 14	36468	Advanced
16	exp Community-Based Participatory Research/	3400	Advanced
17	(action adj2 (inquiry or "oriented participatory research" or research or science)).mp.	3852	Advanced
18	cbpr.mp.	761	Advanced
19	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).mp.	4635	Advanced
20	((participatory or "patient-centered" or "patient-centric") adj2 research).mp.	5569	Advanced
21	16 or 17 or 18 or 19 or 20	12931	Advanced
22	15 and 21	326	Advanced
23	limit 22 to yr="2000 - 2017"	304	Advanced

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	Page Addressed
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	N/A
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	N/A
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	5
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	N/A
Support:			
Sources	5a	Indicate sources of financial or other support for the review	9
Sponsor	5b	Provide name for the review funder and/or sponsor	N/A
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	N/A
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	1-3
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	3
METHODS			
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	3-5
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	3-5
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	Appendix A

		repeated	
Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	6
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)	6-7
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	6-8
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	8-9
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	5-7
Risk of bias in individual studies	14	Describe anticipated methods for 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	6-8
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	3-5
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	N/A
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	N/A
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	6-8
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 cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	N/A

*From: Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ*. 2015;349:g7647.