

# BMJ Open Best practices for community-engaged participatory research with Pacific Islander communities in the USA and USAPI: protocol for a scoping review

Pearl Anna McElfish,<sup>1,2</sup> Britni L Ayers,<sup>1</sup> Rachel S Purvis,<sup>1</sup> Christopher R Long,<sup>1,2</sup> Ka'imi Sinclair,<sup>3</sup> Monica Esquivel,<sup>4</sup> Susan C Steelman<sup>5</sup>

**To cite:** McElfish PA, Ayers BL, Purvis RS, *et al.* Best practices for community-engaged participatory research with Pacific Islander communities in the USA and USAPI: protocol for a scoping review. *BMJ Open* 2018;**8**:e019653. doi:10.1136/bmjopen-2017-019653

► Prepublication history and additional material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2017-019653>).

Received 21 September 2017  
Revised 1 December 2017  
Accepted 8 December 2017



<sup>1</sup>Office of Community Health and Research, University of Arkansas for Medical Sciences, Fayetteville, Arkansas, USA

<sup>2</sup>College of Medicine, University of Arkansas for Medical Sciences, Fayetteville, Arkansas, USA

<sup>3</sup>Initiative for Research and Education to Advance Community Health (IREACH), College of Nursing, Washington State University, Seattle, Washington, USA

<sup>4</sup>Department of Human Nutrition, Food and Animal Sciences, University of Hawai'i at Mānoa, Honolulu, Hawaii, USA

<sup>5</sup>Division of Academic Affairs, University of Arkansas for Medical Sciences Library, Little Rock, Arkansas, USA

**Correspondence to**  
Dr Pearl Anna McElfish;  
[pamcelfish@uams.edu](mailto:pamcelfish@uams.edu)

## ABSTRACT

**Introduction** Community-based participatory research is a partnership approach to research that seeks to equally involve community members, organisational representatives and academic partners throughout the research process in a coequal and mutually beneficial partnership. To date, no published article has synthesised 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 synthesised 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.

## INTRODUCTION

Community-based participatory research (CBPR) is an approach to research that seeks to equally involve community members, organisational representatives and academic partners throughout the research process in a coequal and mutually beneficial partnership.<sup>1–5</sup> 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

## Strengths and limitations of this study

- 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.

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.<sup>5–6</sup> CBPR has demonstrated efficacy in building alliances to conduct research with disenfranchised communities.<sup>1</sup> Engaged research is referred to by other terms including action research, CBPR and patient-centred research; the term CBPR will be used throughout this protocol.

## BACKGROUND

Pacific Islanders are the second fastest growing population in the USA, and grew 40% between 2000 and 2010.<sup>7–9</sup> In addition to the continental USA 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 USA:

the Federated States of Micronesia, the Republic of the Marshall Islands and the Republic of Palau. Pacific Islanders are under-represented 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.<sup>10–14</sup> While data aggregation has limited the amount of available data, existing research reveals profound health disparities among Pacific Islanders compared with the general US population.<sup>15–39</sup> These disparities include higher rates of diabetes, cardiovascular disease, obesity and cancer.<sup>40–44</sup> While national data about life expectancy are not available for Pacific Islanders due to aggregation,<sup>45–47</sup> individual state and US territory data document life expectancy for Pacific Islanders as 68.3 years,<sup>48</sup> compared with the life expectancies of 78 years for non-Hispanic Whites and 79 years for the total US population.<sup>47</sup>

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 7200 Hiroshima-sized bombs.<sup>49–52</sup> 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.<sup>50 52–59</sup> After nuclear testing, the USA 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.<sup>60–63</sup> The research was conducted without the informed consent of the Pacific Islanders and without translation of the study information into the native language.<sup>52</sup> This historical trauma has contributed to deep apprehension and distrust of western medicine and research.<sup>64–69</sup> Historical trauma perpetuates ethical challenges that must be addressed in order to conduct research with Pacific Islanders.<sup>70 71</sup>

One way to address the effects of historical trauma on Pacific Islander communities' perceptions of research is through CBPR.<sup>70 71</sup> CBPR shares power and builds trust between academic researchers and the community.<sup>72 73</sup> There is evidence for the effectiveness of using CBPR to engage minority, immigrant and migrant populations in research to reduce health disparities.<sup>74–79</sup> In addition, there is evidence for the effectiveness of using CBPR to reduce health disparities in populations that have experienced historical trauma.<sup>80</sup> To date, no published article has synthesised 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 USA.

**Table 1** Study eligibility criteria

Participant population	CBPR studies conducted with Pacific Islanders in the USA 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 USA 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 (eg, randomised controlled trials, mixed methods, cross-sectional, descriptive, qualitative, case studies, and so on)

CBPR, community-based participatory research; USAPI, US Affiliated Pacific Islands.

## 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 USA and USAPI? Best practices are defined as the methods identified as most effective (ie, successful) by CBPR researchers across multiple studies as outlined by Israel *et al.*<sup>81</sup>

## METHODS

The scoping review protocol was designed in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols statement.<sup>82 83</sup>

### Eligibility criteria

Studies will be selected according to the following criteria (table 1):

Studies will be limited to research conducted with participants residing in the USA and USAPI. Studies published between January 2000 and December 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.<sup>6</sup> 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), International Pharmaceutical Abstracts (OVID), Cumulative Index to Nursing and Allied Health Literature-CINAHL Complete (EBSCO), Health Policy Reference Center (EBSCO), PsychINFO (EBSCO), SocINDEX (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 WHO'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 coauthor SCS, in consultation with coauthors PAM, BLA, RSP and CRL. Medical Subject Headings (MeSH) will be used and explored where appropriate. 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. MeSH and other 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 'kauai' 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). Similar synonymous terminology searching will be combined multiple ways to reach the CBPR concept. Controlled vocabulary headings, search

**Table 2** Data to be extracted

Participant population	<ul style="list-style-type: none"> <li>▶ Race/ethnicity</li> <li>▶ Subgroup of Pacific Islanders</li> <li>▶ Geographical location</li> <li>▶ Sex</li> <li>▶ Age group</li> </ul>
Study design	<ul style="list-style-type: none"> <li>▶ Randomised controlled trial</li> <li>▶ Case study</li> <li>▶ Others</li> </ul>
Study method(s)	<ul style="list-style-type: none"> <li>▶ Qualitative</li> <li>▶ Quantitative</li> <li>▶ Mixed methods</li> <li>▶ Others</li> </ul>
Study setting	<ul style="list-style-type: none"> <li>▶ Churches</li> <li>▶ Clinical setting</li> <li>▶ School systems</li> <li>▶ Community setting</li> <li>▶ Others</li> </ul>
Best practices	<ul style="list-style-type: none"> <li>▶ Best practices related to CBPR design, implementation setting, individuals involved and implementation process (eg, recruitment, data collection, retention, dissemination)</li> </ul>
Publication details	<ul style="list-style-type: none"> <li>▶ Authors</li> <li>▶ Article title</li> <li>▶ Journal title</li> <li>▶ Year of publication</li> <li>▶ Volume number</li> <li>▶ Issue number</li> <li>▶ Page numbers</li> <li>▶ Funding source</li> <li>▶ Was a community author identified?</li> </ul>

CBPR, community-based participatory research.

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 (PAM). The search terms and strategy to be used from MEDLINE (via OVID) are presented in online supplementary appendix 1.

### Data management

Search results will be exported, stored and shared among coauthors using Endnote (V.6.0.1) a bibliographic reference management tool. Duplicate records will be removed from search results by using manual oversight to ensure accurate duplicate removal. The final, unique set of records will be uploaded to *Rayyan*, a free online tool that allows for easy screening of systematic/scoping review results. As necessary, records will be exported to Excel 2013.

### 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):

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 organise emergent codes into a code book that will be used to code each data segment. This process will help organise the data for focused thematic coding and allow the researchers to create salient summaries of best practices.<sup>84 85</sup> These summaries will be used to present the convergent and divergent themes within the studies. Additionally, these summaries will allow us to identify gaps in the existing literature.

## DISCUSSION

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. The article will expand the available knowledge on CBPR methods which have shown success in reducing health disparities in African American, Hispanic/Latino and other minority groups.<sup>74–80</sup> For this reason, it will be useful to CBPR partnerships with Pacific Islanders who are seeking to address the profound health disparities in the rapidly growing Pacific Islander population. The outcome of this article can serve as a guide for researchers and community members seeking to address health disparities in diverse Pacific Islander communities. For example, those seeking to address a wide variety of health conditions from Hansen's disease to obesity can use the cumulative best practices in the scoping review to guide their CBPR methods including engagement, recruitment, data collection, retention and dissemination.

### Dissemination

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 CBPR stakeholders.

**Contributors** PAM, BLA, RSP, CRL, KS and ME designed the protocol, and SCS developed the search strategy in consultation with PAM, BLA and RSP. PAM, BLA and RSP drafted the protocol, and SCS, CRL and KS revised the protocol. All authors approved the current version of the protocol.

**Funding** This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Open Access** This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

© Article author(s) (or their employer(s) unless otherwise stated in the text of the article) 2018. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

## REFERENCES

- Vaughn LM, Jacquez F, Lindquist-Grantz R, *et al.* Immigrants as research partners: a review of immigrants in community-based participatory research (CBPR). *J Immigr Minor Health* 2017;19:1457–68.
- Townsend CK, Dillard A, Hosoda KK, *et al.* Community-based participatory research integrates behavioral and biological research to achieve health equity for Native Hawaiians. *Int J Environ Res Public Health* 2015;13:4–10.
- National Institutes of Health. Community-Based Participatory Research Program. 2017. <https://www.nimhd.nih.gov/programs/extramural/community-based-participatory.html>
- Panapasa S, Jackson J, Caldwell C, *et al.* Community-based participatory research approach to evidence-based research: lessons from the Pacific Islander American Health Study. *Prog Community Health Partnersh* 2012;6:53–8.

5. Israel BA, Coombe CM, Cheezum RR, et al. Community-based participatory research: a capacity-building approach for policy advocacy aimed at eliminating health disparities. *Am J Public Health* 2010;100:2094–102.
6. Israel BA, Schulz AJ, Parker EA, et al. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Public Health* 1998;19:173–202.
7. Grieco E. The Native Hawaiian and other Pacific Islander population: Census 2000 brief. 2001. <http://www.census.gov/prod/2001pubs/c2kbr01-14.pdf>
8. Bureau USC. 2010 Census Shows More than Half of Native Hawaiians and Other Pacific Islanders Report Multiple Races. 2010.
9. Hixson L, Hepler B, Kim M. The Native Hawaiian and Other Pacific Islander Population: 2010. 2012. <http://www.census.gov/prod/cen2010/briefs/c2010br-12.pdf>
10. Working Group of Applied Research Center and National Council of Asian Pacific Americans. Best practices: researching Asian Americans, Native Hawaiians and Pacific Islanders. <http://ncapaonline.org/BestPracticesAANHPI.pdf> (Accessed 12 September 2013).
11. Ro MJ, Yee AK. Out of the shadows: Asian Americans, Native Hawaiians, and Pacific Islanders. *Am J Public Health* 2010;100:776–8.
12. Srinivasan S, Guillermo T. Toward improved health: disaggregating Asian American and Native Hawaiian/Pacific Islander data. *Am J Public Health* 2000;90:1731–4.
13. Nguyen AB, Chawla N, Noone AM, et al. Disaggregated data and beyond: future queries in cancer control research. *Cancer Epidemiol Biomarkers Prev* 2014;23:2266–72.
14. Ahmad F, Weller C. Reading between the data the incomplete story of Asian Americans, Native Hawaiians, and Pacific Islanders. 2014.
15. Moy KL, Sallis JF, David KJ. Health indicators of Native Hawaiian and Pacific Islanders in the United States. *J Community Health* 2010;35:81–92.
16. Look M, Trask-Batti M, Mau M, et al. *Assessment and Priorities for Health & Well-being in Native Hawaiians and other Pacific Peoples*. Honolulu, HI: University of Hawaii, 2013.
17. Mau M. *Health and health care of Native Hawaiian & other Pacific Islander older adults*. Stanford, CA: Stanford School of Medicine, 2010:1–38.
18. Center for Disease Control and Prevention. CDC - NHOPi - Native Hawaiian - other - Pacific Islander - populations - racial - ethnic - minorities - minority health. 2015. <http://www.cdc.gov/minorityhealth/populations/REMP/nhopi.html> (accessed 14 May 2015).
19. Asian American's Advancing Justice. *Native Hawaiians and Pacific Islanders in the United States*, 2014.
20. Asian & Pacific Islander Health Forum. *Native Hawaiian and Pacific Islander Health Disparities*, 2010.
21. Braun KL, Kim BJ, Ka'opua LS, et al. Native Hawaiian and Pacific Islander Elders: what Gerontologists should know. *Gerontologist* 2015;55:912–9.
22. Evaluation IFHMa. GBD profile: Federated States of Micronesia. 2010 [http://www.healthdata.org/sites/default/files/files/country\\_profiles/GBD/ihme\\_gbd\\_country\\_report\\_federated\\_states\\_of\\_micronesia.pdf](http://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_federated_states_of_micronesia.pdf)
23. Panapasa S, Jackson J, Caldwell C, et al. Pacific Islander health study report: preliminary findings. 2012.
24. United Nations Population Fund. Pacific Island countries: population and development profiles. 2014. [http://countryoffice.unfpa.org/pacific/drive/web\\_140414\\_UNFPAPopulationandDevelopmentProfiles-PacificSub-RegionExtendedv1LRv2.pdf](http://countryoffice.unfpa.org/pacific/drive/web_140414_UNFPAPopulationandDevelopmentProfiles-PacificSub-RegionExtendedv1LRv2.pdf)
25. Economic Policy PaSO, Republic of the Marshall Islands, and the SPC Statistics for Development Programme. 2011. Republic of the Marshall Islands 2011 Census report. Noumea, New Caledonia. 978-982-00-0564-8.
26. Moy KL, Sallis JF, Trinidad DR, et al. Health behaviors of native Hawaiian and Pacific Islander adults in California. *Asia Pac J Public Health* 2012;24:961–9.
27. Aitaoto N, Ichiho HM. Assessing the health care system of services for non-communicable diseases in the US-affiliated Pacific Islands: a Pacific regional perspective. *Hawaii J Med Public Health* 2013;72(5 Suppl 1):106–14.
28. Palafox N. Health consequences of the Pacific U.S. nuclear weapons testing program in the Marshall Islands: inequity in protection, policy, regulation, presidents cancer panel. *Rev Environ Health* 2010;1:81–5.
29. Palafox NA, Riklon S, Alik W, et al. Health consequences and health systems response to the Pacific U.S. nuclear weapons testing program. *Pac Health Dialog* 2007;14:170–8.
30. Palafox NY S. The health predicament of the U.S.-associated Pacific Islands: what role for primary health care? *Asian Am Pac Isl J Health* 1997;5:49–56.
31. Pobutsky A, Krupitsky D, Yamada S. Micronesian migrant health issues in Hawaii: Part 2: An assessment of health, language and key social determinants of health. *Calif J Health Promot* 2009;7:32–55.
32. Yamada S, Pobutsky A. Micronesian migrant health issues in Hawaii: Part 1: background, home island data, and clinical evidence. *Calif J Health Promot* 2009;7:16–31.
33. Center for Disease Control and Prevention. United States affiliated Pacific Islands. 2011 - TB. 2011. <http://www.cdc.gov/tb/statistics/reports/2011/pdf/pacificislands.pdf>
34. Blackwell D, Lucas H, Clarke T. *Summary health statistics for US adults: national health interview survey, 2012*. 10: Vital Health Stat, 2014.
35. PreventionCfDca. *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2011*: Vital and Health Statistics, 2012.
36. Schiller J, Lucas J, Ward B, et al. *Summary Health Statistics for U. S. Adults: National Health Interview Survey, 2010*: National Center for Health Statistics, Vital Health Statistics, 2012.
37. Pleis J, Ward B, Lucas J. Summary Health Statistics for US Adults: National Health Interview Survey, 2009. 10, 2010. [http://www.cdc.gov/nchs/data/series/sr\\_10/sr10\\_249.pdf](http://www.cdc.gov/nchs/data/series/sr_10/sr10_249.pdf).
38. Pleis J, Ward B. *Summary health statistics for U.S. adults: national health interview survey, 2008*. 10: Vital Health Stat, 2009.
39. Pleis J, Lucas J. *Summary health statistics for U.S. adults: national health interview survey, 2007*. 10: Vital Health Statistics, 2009. [http://www.cdc.gov/nchs/data/series/sr\\_10/sr10\\_240.pdf](http://www.cdc.gov/nchs/data/series/sr_10/sr10_240.pdf)
40. Tung W-C. Diabetes Among Native Hawaiians and Pacific Islanders. *Home Health Care Manag Pract* 2012;24:309–11.
41. Mau MK, Sinclair K, Saito EP, et al. Cardiometabolic health disparities in native Hawaiians and other Pacific Islanders. *Epidemiol Rev* 2009;31:113–29.
42. Okihiro M, Harrigan R. An overview of obesity and diabetes in the diverse populations of the Pacific. *Ethn Dis* 2005;15(4 Suppl 5):S5–71.
43. Buenconsejo-Lum L, Navasca D, Jeong Y, et al. *Cancer in the U.S. Affiliated Pacific Islands 2007–2011*. Honolulu, HI: Pacific Regional Central Cancer Registry, Cancer Council of the Pacific Islands and John A. Burns School of Medicine, 2014.
44. US Department of Health and Human Services Office of Minority Health. Profile: Native Hawaiian and Pacific Islanders. 2015. <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=65> (Accessed 15 June 2015).
45. National Center for Health Statistics. *Health, United States, 2011: with special feature on socioeconomic status and health*. Hyattsville, MD, 2012.
46. National Center for Health Statistics. *Health, United States, 2013: with special feature on prescription drugs*. Hyattsville, MD, 2014.
47. Arias E. *United States life tables, 2001*. Hyattsville, Maryland: National Center for Health Statistics 2004.
48. Taylor R, Lewis ND, Levy S. Societies in transition: mortality patterns in Pacific Island populations. *Int J Epidemiol* 1989;18:634–46.
49. Cooke S. *In Mortal Hands: A Cautionary History of the Nuclear Age*. New York, USA: Bloomsbury, 2010.
50. Nj. P. Health transitions, fast and nasty: exposure to nuclear radiation. *Pacific Health Dialog* 2002;9:275–82.
51. Guyer RL. Radioactivity and rights: clashes at Bikini Atoll. *Am J Public Health* 2001;91:1371–6.
52. Barker H. *Bravo for the Marshallese: regaining control in a post-nuclear, the case of Marshallese post-colonial world*. 2nd: Cengage Learning, 2012.
53. Lessard ET, Miltenberger RP, Cohn SH, et al. Protracted exposure to fallout: the Rongelap and Utirik experience. *Health Phys* 1984;46:511–27.
54. Robison WL, Bogen KT, Conrado CL. An updated dose assessment for resettlement options at Bikini Atoll—a U.S. nuclear test site. *Health Phys* 1997;73:100–14.
55. Bogen KT, Conrado CL, Robison WL. Uncertainty and variability in updated estimates of potential dose and risk at a U.S. nuclear test site—Bikini Atoll. *Health Phys* 1997;73:115–26.
56. Gilbert ES, Land CE, Simon SL. Health effects from fallout. *Health Phys* 2002;82:726–35.
57. Kroon E, Reddy R, Gunawardane K, et al. Cancer in the republic of the Marshall Islands. *Pac Health Dialog* 2004;11:70–7.
58. Division of Cancer Epidemiology and Genetics NCI. Estimation of the baseline number of cancers among Marshallese and the number of cancers attributable to exposure to fallout from nuclear weapons testing conducted in the Marshall Islands. 2004. [http://dceg.cancer.gov/RMIdocs/9-28Response\\_appendix.pdf](http://dceg.cancer.gov/RMIdocs/9-28Response_appendix.pdf) (accessed 26 Jun 2005).
59. Gittelsohn J, Haberle H, Vastine AE, et al. Macro- and microlevel processes affect food choice and nutritional status in the republic of the Marshall Islands. *J Nutr* 2003;133:310S–313S.

60. Martin EJ, Rowland RH. *Castle Series, 1951*: United States Department of Energy, 1982. DNA6035F.
61. Adams W, Heotis P, Scott W. *Medical status of Marshallese accidentally exposed to 1954 bravo fallout radiation: January 1985 through December 1987*. Upton, NY: Brookhaven National Laboratory, 1989. BNL-52192 UC-408.
62. Cohn SH, Rinehart RW, Gong JK, et al. *Nature and extent of internal radioactive contamination of human beings, plants, and animals exposed to fallout*. Bethesda, MD and San Francisco, CA: Naval Medical Research Institute and Naval Radiological Defense Laboratory, 1955. WT-036.
63. Sondhaus CA, Bond VP. *Physical factors and dosimetry in the Marshall Island radiation exposures*. Ft. Belvoir, VA: Naval Radiological Defense Laboratory, 1955.
64. Wergowske G, Blanchette PL. Health and health care of elders from Native Hawaiian and other Pacific Islander backgrounds. 2001. <http://web.stanford.edu/group/ethnoger/nativehawaiian.html>
65. McElfish P. *University of Arkansas for medical sciences-northwest focus groups with Marshallese community, March 2014*. Springdale, AR: University of Arkansas for Medical Sciences-Northwest, 2014.
66. McElfish P. *UAMS-NW marshallese focus groups*. Springdale, AR: University of Arkansas for Medical Sciences-Northwest, 2013.
67. McElfish P. *University of Arkansas for medical sciences-northwest focus groups with Marshallese, December 2013*. Springdale, AR: University of Arkansas for Medical Sciences-Northwest, 2013.
68. McElfish P. *Unpublished summary of interviews with Marshallese stakeholders from June 2012 through October 2013*. Springdale, AR and Fayetteville, AR: University of Arkansas for Medical Sciences-Northwest, 2013.
69. McElfish P. *Unpublished preliminary planning interviews with local Marshallese and Marshallese healthcare providers from August 2012 through November 2013*. Springdale, AR and Fayetteville, AR: University of Arkansas for Medical Sciences-Northwest, 2012-2013.
70. Wallerstein N. Power between evaluator and community: research relationships within New Mexico's healthier communities. *Soc Sci Med* 1999;49:39-53.
71. Minkler M. Ethical challenges for the "outside" researcher in community-based participatory research. *Health Educ Behav* 2004;31:684-97.
72. Wallerstein NB, Duran B. Using community-based participatory research to address health disparities. *Health Promot Pract* 2006;7:312-23.
73. Minkler M, Wallerstein N. *Community-based participatory research for health: from process to outcomes*. San Francisco, CA: Jossey-Bass Publishers, 2008.
74. Cacari-Stone L, Wallerstein N, Garcia AP, et al. The promise of community-based participatory research for health equity: a conceptual model for bridging evidence with policy. *Am J Public Health* 2014;104:1615-23.
75. Minkler M. Linking science and policy through community-based participatory research to study and address health disparities. *Am J Public Health* 2010;100(Suppl 1):S81-S87.
76. Rhodes SD, Yee LJ, Hergenrather KC. A community-based rapid assessment of HIV behavioural risk disparities within a large sample of gay men in southeastern USA: a comparison of African American, Latino and white men. *AIDS Care* 2006;18:1018-24.
77. Wallerstein N, Duran B. Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. *Am J Public Health* 2010;100(Suppl 1):S40-S46.
78. Halladay JR, Donahue KE, Hinderliter AL, et al. The heart healthy lenoir project--an intervention to reduce disparities in hypertension control: study protocol. *BMC Health Serv Res* 2013;13:441.
79. Patzer RE, Gander J, Sauls L, et al. The RaDIANT community study protocol: community-based participatory research for reducing disparities in access to kidney transplantation. *BMC Nephrol* 2014;15:171.
80. Rasmus SM. Indigenizing CBPR: evaluation of a community-based and participatory research process implementation of the Ellum Tungiinun (towards wellness) program in Alaska. *Am J Community Psychol* 2014;54(1-2):170-9.
81. Israel BA, Eng E, Schulz AJ, et al. *Methods for community-based participatory research for health*. 2nd Edn: Jossey-Bass, 2012.
82. Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev* 2015;4:1.
83. 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.
84. Charmaz K. 'Discovering' chronic illness: using grounded theory. *Soc Sci Med* 1990;30:1161-72.
85. Charmaz K. Teaching theory construction with initial grounded theory tools: a reflection on lessons and learning. *Qual Health Res* 2015;25:1610-22.