A Rapid Assessment Procedure to Develop A Non-Communicable Disease Prevention Pilot Health Communications Project Using E- and M-Health Communications in Pohnpei State, Federated States of Micronesia

Angela Sy DrPH; Jahron Marriott MS; Candace Tannis MD, MPH; Margaret Demment PhD; Scott McIntosh PhD; Johnny Hadley BA; Pertina Albert; Lee Buenconsejo-Lum MD, FAAFP; and Timothy Dye PhD

Abstract

Pohnpei State of the Federated States of Micronesia, located in the Northwestern Pacific Ocean, has limited health research infrastructure; chronic non-communicable diseases (NCD) such as diabetes, heart disease, and cancer are a concern. Over 73% of Pohnpei's population is overweight or obese. E- and m- (mobile) health interventions are becoming more popular in low and middle income countries. A Rapid Assessment Procedure was conducted for formative research to identify the enabling factors and challenges related to health communication and technology in Pohnpei to address NCD prevention.

Thirty-seven local stakeholders were identified through snowball sampling for interviews and group discussions about e-health readiness and NCD priorities, held in local settings. Interviews were audio recorded, with field notes taken. Data were iteratively coded using DEDOOSE.

Diabetes emerged as the most serious NCD issue because both the health system and local community are having to deal with the complications and consequences. Stakeholders recommended that prevention should be integrated with diabetes treatment. Local health workers' teaching evidence-based diabetes prevention and other health promotion education were through handheld (mobile devices) was identified.

The ability to readily access evidence-based health education materials and modules is compatible with community approaches providing tailored, individual and small group education and social support. This approach may serve as a key component of local NCD prevention communications initiatives integral to prevent diabetes and its complications as remote Small Island Nations face burgeoning NCD epidemics and dramatic shifts in diet and activity.

Introduction

Pohnpei and Health Priorities

The Federated States of Micronesia (FSM) contain 607 volcanic islands and atolls scattered over 1 million square miles of the Northwestern Pacific Ocean. The land area totals 704.6 square kilometers, with 7192 square kilometers of lagoon area. The FSM consists of four geographically separate states: Chuuk, Kosrae, Pohnpei, and Yap.[1]

The FSM receives revenue from the Compact of Free Association, the agreement with the United States of America by which Micronesia received $1.3 billion in financial and technical assistance over a 15-year period until 2001, with smaller funding in succeeding years. Economic activity in the FSM consists primarily of subsistence farming and fishing.[1]

The State of Pohnpei consists of the main island of Pohnpei and eight outer atolls. The island of Pohnpei is roughly circular in shape, is approximately 13 miles long, has a landmass of 133.3 square miles, and is the largest island in the FSM. Based on the 2010 Census, Pohnpei has a population of 35,981. The mean household income was $11,249.[2]

Heart disease, diabetes, cancer, and hypertension were some of the leading causes of death among the residents of Pohnpei.[2] Over 73% of the population was overweight (30.5%) or obese (42.6%).[3] A classification for non-communicable disease (NCD) risk using specific risk factors found that 56.7% of the study population in Pohnpei was at high risk of NCDs.[2]

Human resources are a critical area in the health care setting nationally, as many of the current workforce will be retiring in five to 10 years, and their replacement is not imminent. Development of the health workforce therefore remains a government priority. Government health services also lack specialized allied health professional workers, particularly hospital administrators, epidemiologists, medical record administrators, pharmacists, laboratory technicians, radiologists, and environmentalists.[1] There is also a need for staff training on health education strategies using behavior change theories such as the Stages-of-Change model, Self-Management Skills, and Lifestyle Behaviors.[2]

The high incidence of NCDs with a small and diminishing health workforce in Pohnpei mirrors global health trends in developing countries. The WHO declared that in developing countries, there is a "critical health workforce shortage" which includes hospitals that are understaffed as well as gaps in patient physician communications.[4,5] NCD prevention as a means to address gaps in healthcare workforce has been identified as a "major health challenge of the 21st century" in low and middle-income countries (LMIC).[6,7]

E- and M-Health in LMICs

Standardized definitions of e- and m-health have not been established with terms used inconsistently and interchangeably with varied understanding.[8] E-health uses information

and communications technologies while m-health uses mobile devices (on- or off-line) for communications and information. For m-health, the WHO definition is used: "communications technology using mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other technologies to support medical and public health practice".[5] E- and m-health encompass communications strategies covering the range of low and high tech media, and all have the goal to more efficiently and effectively deliver health communication and information to targeted audiences.[9] Examples include devices to access electronic or mobile information, eg, radio, digital camera, DVDs, tablets, telehealth, and forms of information delivery: email, websites, electronic health records, and social media.[10]

Information and communication technology strategies such as telemedicine, internet-based programming, and mobile platforms have been shown to be feasible in reaching populations that would otherwise have limited or no access to care resources within the United States and abroad.[11] "E-health" or "m-health" often use fewer resources and require less infrastructure for sustainability, making e- and m-health ideal, and these health communication strategies have been successfully used in low resource countries.[12,13] As highlighted by the United Nations at an NCD meeting, the use of m-health is a key strategy to address NCD prevention and reduction in developing countries by improving health programming and services, particularly in LMICs.[5,6] The literature review on m-health strategies most appropriate for LMICs found that health promotion and raising awareness and the use of mobile phones and PDAs were among the eight most common m-health areas and types.[5]

A literature review conducted on the use and areas of use of m-health found that though diabetes was the most commonly addressed health area, this, along with other NCDs, is still not adequately addressed. The authors conclude that for LMICs, m-health needs to extend globally outside of Asian countries, where m-health is more popular, and particularly address NCDs and diabetes.[5] In Pohnpei, the identified health priorities are the need to shift the health education paradigm from signs and symptoms of diabetes, nutrition, and physical activity to lifestyle behavior changes, self-management skills, and personal accountability.[2]

Like the use of traditional mass media, designing innovative health education interventions using mobile technology must be relevant and usable for the target audiences and the specific purposes.[6] The purpose of e- and m-health readiness is to assess the preparedness of health care institutions and communities for changes if programs that entail information and communication technology use are introduced.[9] An m-health assessment in the Republic of Seychelles, a developing small island state, found that such an assessment is necessary and should be conducted prior to m-health implementation for other small island, middle income developing states or countries.[6] E-health readiness assessments have been conducted in various circumstances and geographical regions of the world to identify the extent e- (or m-) health strategies would fit with existing systems, cultures, and other external contexts, eg, resources, skills.[4,6,9]

Purpose of Project

The Racial and Ethnic Approaches to Community Health (REACH) is a US Centers for Disease Control and Prevention (CDC) funded initiative to support public health efforts to reduce NCDs by promoting healthier lifestyles, to reduce health disparities, and to ultimately improve health outcomes for minority populations. In September 2014, the University of Hawai'i (UH) at Manoa received REACH funding to develop and implement in Pohnpei State a public communication campaign to reduce smoking, secondhand smoke, and sugar-sweetened beverage consumption. Additionally, the University of Rochester (UR) was awarded a Prevention Research Center-sponsored program as the CDC's Global and Territorial Health Research Network (GTHRN) Coordinating Center. This project collaboratively conducts, shares, and translates innovative chronic disease prevention research in low-resource settings, particularly those relevant to the US Affiliated Pacific Islands, Puerto Rico, and the US Virgin Islands.

The goals of the collaborative REACH and GTHRN project are to explore innovative approaches to health communications including e- and m-health approaches and develop qualitative and quantitative methods for measuring and evaluating communication efforts through the REACH program in Pohnpei. The objective of this formative research was to conduct a Rapid Assessment Procedure (RAP)—an intensive, team-based qualitative inquiry using triangulation, iterative data analysis, and additional data collection to quickly develop a preliminary understanding of a situation from the insider's perspective—to better understand the enabling factors, challenges, and opportunities related to health, technology (high and low, e- and m-health), and communication in Pohnpei to help address chronic disease.[14]

Methods

RAP is appropriate when there is a need for "actionable feedback" and has been used to quickly deploy recommendations to sponsors in a short amount of time available for a clinical informatics intervention. This RAP involved the development and refinement of procedures and then collection and analysis of interview data, field notes, and direct observation.[15] RAP was used to conduct formative research to better understand the enabling factors and challenges related to context, experience, results of current NCD-related communication efforts of REACH and related projects from local stakeholder perspectives in Pohnpei. The stakeholders included health workers, administrators, key institutional representatives and opinion leaders in the community, and community members.

Setting and Recruitment

REACH in the USAPI supported community and culturally relevant public health efforts to reduce NCDs by promoting healthy eating and preventing tobacco use. Pohnpei State was one of three USAPI locations that were identified by preliminary assessment, local expressed interest, and purposeful selection to conduct a pilot research project on e-health readiness via an intervention. Snowball and convenience sampling were used to identify people to include in qualitative interviewing and group interviews. Of interest were people whose jobs were related to health or communication and capturing a representative sample of community members impacted by potential messages.

Domains

Two domains were assessed for e-health readiness and NCD priorities: (1) Current health communication efforts, barriers, and facilitators and (2) multilevel conceptions of NCDs. Each domain was guided by questions developed in a semi-structured interview guide, eg, How would stakeholders like to see messaging done differently? What modalities are used (eg, radio, text messages)? What are the challenges and the recommendations that you would make to improve communication efforts around these NCD issues? The focus group questions were aimed at identifying sources of major NCD burden in Pohnpei as well as perspectives on the causes of NCDs. The semi-structured questions for the focus group were pilot tested via emails and video conferencing between the researchers and local team experts from a partner site in the Republic of Marshall Islands. They provided suggestions to tailor questions according to relevancy.

Data Collection

The REACH Local Project Assistant identified focus group participants from an initial local convenience sample with subsequent chain sampling. The participants were identified by the local partners during the visit as people who had key roles in community health outreach or local communication. The focus groups were conducted at convenient site locations (eg, health department, health clinic, and church), facilitated by a UR or UH researcher, and audio recorded with field notes taken. At the end of each day, the field team convened to debrief impressions and complete their notes from the day's focus groups.

Coding and Analysis

Thematic coding of the qualitative data was used to assess and gain insight on potential REACH communication activities to targeting healthy behavior change. Content thematic coding examines for patterns or themes in participants' discussions. This approach was chosen because it was compatible with the aims of most health qualitative research in presenting the key elements of participants' accounts. Themes were coded as recurrent concepts to be used to summarize and organize the range of topics, views, experiences or beliefs voiced by participants.[16]

A coding tree was drafted after debriefing in the field and reviewing field notes (TD, AS, SM, MD), and a codebook was developed. Dedoose is a cloud-based qualitative data analysis program using cloud-based data storage to a HIPAA compliant SAS 70 type II data center and utilizes SSL-EV and AES-256 encryption (www.dedoose.com) thus allowing multiple coders with the cloud-based platform.[17] Dedoose qualitative analysis software program was used to support the coding for key themes and constructs by an initial reviewer. The initial reviewer had expertise in qualitative analysis and use of Dedoose for coding but was not involved in the RAP so that thematic codes identified could be purely inductive, ie, no familiarity of the context and topic. The coding tree (ie, themes and subthemes) was piloted on audio files by three independent coders to the cloud-based transcripts files and discrepancies in coding were discussed and resolved by the coding team (JM, CT, MD).

Results

Twenty-one men and twenty-two women participated in focus groups and key informants interviews (group and individual interviews), and they represented different employment sectors including health disciplines. The interviews averaged 40 minutes in length and took place within a variety of local settings including hospitals, churches, homes, and at community events. The team additionally engaged in 4 hours of community introduction, cultural activities, and site visits (Table 1). Results address the two domains of which participants were queried: (1) Current health communication efforts, barriers, and facilitators and (2) multilevel conceptions of NCDs, and reported below.

Diet

Change in diet since World War II was indicated as a major contributing factor to the increased rate of NCDs. Participants explained that this change arises from a sociocultural shift in time management that prioritizes speed and convenience in food preparation over the longer time it takes to prepare traditional meals. Ease and affordability of canned foods was an incentive to forgo traditional meals.

Table 1. Descriptive Information on RAP in Pohnpei	
Interview and Activity Characteristics	**n**
Gender	
Male	21
Female	22
Local	
Yes	38
No	5
Average length of interview/meeting (minutes)	60 minutes
Community activity (hours)	4 hours

The influx of imported food items, such as rice or other foods foreign to the traditional diet, has been explained as a contributing factor of diabetes and other NCDs (Table 2). All but one interview or focus group discussed diet change as a major contribution to NCDs in Pohnpei. Participants expressed the belief that by going back to one's "roots", traditional diets and ways of preparing food, health issues, such as NCDs, may decrease.

Physical Activity

The changes in physical activity levels of residents were described as the result of the flow of modernization reflected in having less time devoted to food preparation. Participants explained that the ease and convenience of food preparation takes away one of the outlets that islanders have to get exercise with one participant noting: "*Need to get back to doing physical work. Need to sweat it out!*" On Pohnpei, people are more willing to drive cars or get a ride to their destination instead of using more active means of transportation. Nevertheless, there seems to be a desire to get people more active through engagement in sporting activities. In three of the interviews and focus groups, participants discussed physical activity and its relationship to NCDs.

Diabetes

Diabetes is a visible part of Pohnpeian life, but it has been resistant to intervention:

"*We are struggling to deal with this.*"

Diet has been identified as a contributing factor to diabetes. White rice was mentioned as a commonly consumed imported food and most responsible for the increase of diabetes on the islands. Also, many people felt the scope and impact of NCDs in Pohnpei is overwhelming:

"*NCDs are so big, we can't see what it is.*"

Participants discussed themes related to diabetes as a problem in every interview and focus group and expressed that diabetes is the most serious NCD issue because both the health system and local community are having to deal with the complications and consequences. Furthermore, participants explained that Pohnpei is not able to prevent diabetes or treat complications. However, they also recommended that prevention should be integrated with the diabetes treatment (Table 3).

Summary of Diabetes-related Themes

Further analysis of the constructs of diabetes, physical activity, and diet within this study seem to suggest a strong connection between all three constructs. A tripartite reciprocal model in which each construct impacts the other may capture the interconnected relationship between diabetes, physical activity, and diet. There is a strong interaction between these three constructs.

Communication Efforts

Participants were asked about health communications including the use of communications technology in Pohnpei. Three themes regarding health communications emerged, with one addressing technology (in general) for health communications. One salient theme was that the most effective intervention to communicate NCD prevention messages was community engagement and outreach, deployed through mobile teams and events and with testimony provided by affected populations. Another theme was that health education training was needed for community health workers to deliver accurate NCD prevention messages. The third theme is a hope that some type of technology could facilitate an intervention because people like to "*play with their electronic toys*" (Table 4). Educational modules for use in mobile devices with content and teaching strategies to help health workers use in the field when providing diabetes prevention and management education were identified as an intervention to address diabetes.

Table 2. Themes Related to Diet	
Theme	**Quotes**
Diet rapidly changed in response to colonial periods - introduction of rice as staple, canned foods, and priority on speed and convenience	"*Now people want to cook what's easy – just open a can…*"
Diet habits are difficult to shift	"*[Kids] spend their life eating rice, it's hard to change.*"
Impact of modern economy	"*We prefer to have money to buy what we want…People sell fish to buy canned meat!*"

Table 3. Themes Related to Diabetes	
Theme	**Quotes**
Diabetes is overwhelming the health system and community	"*When you talk about a boat crash, the boat is already sinking.*" "*We're losing the battle.*"
Inability to prevent or treat complications	"*Here if you have kidney problems from diabetes, you're going to die*"
Need to integrate prevention and treatment	"*Public health and curative services are like two legs… If you tie them, you can't go anywhere. Too far apart, and you fall down.*"
Attitude of fatalism, fear, and denial of potential medical consequences	"*Our perception of disease is pain. Diabetes doesn't have the cardinal features of illness that we know – fever, pain, etc. People feel OK.*" "*They think it's God's Will. That's hogwash, it's not God's Will at all.*"

Table 4. Themes Related to Technology	
Theme	**Quotes**
Health education training was needed	*"We've never been trained in health education and behavior change – it's all learning on our own. Would like to know how to do this right."* *"People need to see and learn. To get something done, need to show people it works first."*
Technology could facilitate an intervention	*"I hope technology can help us."* *"People here really play around with their [electronic] toys."*
Interventions that engage community members in groups, with personalized stories, and with local theming were preferred	*"They can associate it with how people lived in the past...like a song...keep your roots...something that would identify themselves with the past. Especially in terms of eating or in terms of how do they approach health."*

Discussion

A Rapid Assessment Procedure was conducted with key community members representing health and other key sectors in Pohnpei State, FSM to assess NCD priorities and e- and m-health readiness, similar to e- and m-health readiness assessments conducted in other LMICs.[4,9] Pohnpei, like other LMICs, is experiencing shifts in diet and activity that lead to chronic disease. Diabetes was found to be a key issue for Pohnpeians.

Discussion from e-health assessments revealed needs for health professionals at all levels (ie, local health workers and trained clinicians) to accurately communicate prevention education as a priority. Educational modules for use in mobile devices with content and teaching strategies to help health workers use in the field when providing diabetes prevention and management education were identified as an intervention to address diabetes. Providing decision support tools via mobile devices is an asset for community health workers in LMICs. Additionally, use of e-health interventions for management of chronic diseases like diabetes has also been found to be cost-effective.[5,11,12] Use of a simple mobile device to access the educational materials for disease prevention at all stages should be locally feasible in multiple settings, especially if the modules are designed to be self-contained without the need for internet access. A mobile, solar charged offline device used by the US Peace Corps volunteers in the field would be the ideal m-health platform because of its ease of transport.

Preliminary results from the qualitative assessments underwent a further validation process via presentation at another biannual face-to-face meeting of cancer control and other public health leaders from the USAPI. The local partners from Pohnpei corroborated the preliminary qualitative findings and contributed to the interpretation of results.

These findings are consistent with the literature that found that health priorities in Pohnpei include a need for training of health professionals in general and trainings on how to conduct health education while aligning with global health priorities.[2,5,6] Though the RAP aims and procedures differed from previous assessments which only focused on health priorities, these findings were still well aligned regarding health priorities on health professional trainings. Finally, the need to provide easily accessible health professionals training and health education materials aligns with LMICs using mobile devices in health communications. This project found that a mobile device may serve as a tool to access health education and trainings when health workers are providing their education and services.

Strengths and Limitations

Strengths of the project were related to the academic and community partnerships, ability to meet with many local key informants onsite, and the qualitative coding methods. The RAP was feasible for focus group opinions from participants with varying levels of healthcare and technology related experiences and consistent with the recommendation to conduct e- and m-health assessments encompassing technological, resource, and cultural readiness. The recruitment approach identified additional key informant participants recommended by the focus group participants. Thanks to existing partnerships from previous and current collaborations, local participants with different levels of influence within the local government were met and qualitative assessments were completed in five days. The qualitative analysis used direct thematic coding from multiple coders from the audio transcripts with the Dedoose software. In contrast, coding of transcribed audio in written form may increase the risk of inaccurate transcriptions through the transcription process. Finally, these findings aligned with previously conducted assessments that identified similar health priorities for Pohnpei and global health trends, eg, diabetes and NCDs, limited health workforce.

Though the sectors represented in the focus groups indicated saturation of responses and this study did not need "more of the same" participant representation, the short duration of the initial fieldwork did not allow for alternate networks of key informants. For example, inner community networks or sectors that may provide alternative perspectives, including village leaders and traditional healers, were unable to participate in the focus groups due to time limitations associated with identifying them prior to arrival. Although these key community individuals were identified during the discussions, the protocols including securing trusted English and Pohnpeian translators would have required much advance planning that was not possible while the team was already on-site. However, through careful use of chain sampling strategies, professionals and community members that would also serve as potential future partners in the project planning and implementation phase of this project were involved.

Implications

A pilot research project to develop, implement, and evaluate a mobile based platform to deliver educational modules for health workers in their prevention work will be conducted. As with the assessment phase, continuous engagement of the local Pohnpei partners in the research intervention planning and implementation will reflect and result in a collaboratively developed feasible intervention reflecting community needs. Potentially positive results from the pilot research study may be scaled up in the FSM, other Pacific jurisdictions, and other LMICs. The continued community engagement will better ensure that a social media and other e-health approaches will be relevant and sustainable as an overall strategy in NCD prevention in the Pohnpei.

A mobile health training based intervention for health workers will help those who have reach into communities to educate the community on evidence-based diabetes prevention and management strategies. The role of community health workers and their ability to connect with community members in health education is key to prevent diabetes and its complications as more isolated and remote Small Island Nations face burgeoning NCD epidemics and dramatic shifts in diet and activity. Further research will determine the types of evidence-based diabetes and health education content to include to enhance health communication and education efforts in small island communities like Pohnpei State in the Federated States of Micronesia.

Conflict of Interest

None of the authors identify a conflict of interest.

Funding

Acknowledgements

Authors' Affiliations:
- John A. Burns School of Medicine, University of Hawai'i, Honolulu, HI (AS, LB-L)
- Department of Obstetrics and Gynecology, University of Rochester Medical Center, Rochester, NY (JM,TD)
- Environmental Medicine and Public Health, Icahn School of Medicine at Mount Sinai, New York, NY (CT)
- Clinical and Translational Science Institute, University of Rochester Medical Center, Rochester, NY (MD)
- Department of Public Health Sciences, University of Rochester Medical Center, Rochester, NY (SM)
- Pohnpei State Cancer Control Program, Pohnpei, Federated States of Micronesia (JH, PA)

Correspondence to:
Timothy Dye PhD; University of Rochester Medical Center, 601 Elmwood Ave, Box CU420708, Rochester, NY 14642; Email: tim_dye@urmc.rochester.edu

References

1. World Health Organization. *Western Pacific Country Health Information Profiles.* 2011.
2. Ichiho, HM, Anson, R, Keller, E, Lippwe, K, Aitaoto, N. An assessment of non-communicable diseases, diabetes, and related risk factors in the Federated States of Micronesia, Pohnpei State: A systems perspective. *Hawaii J Med Public Health.* 2013;72(5, S1):49-56.
3. World Health Organization. *Federated States of Micronesia (Pohnpei) NCD Risk Factors: STEPS Report.* 2008.
4. Khatun F, Heywood AE, Ray PK, Hanifi SMA, Bhuiya A, Liaw ST. Determinants of readiness to adopt mHealth in a rural community of Bangladesh. *International Journal of Medical Informatics.* 2015;84:847–856.
5. Abaza H, Marschollek M. mHealth application areas and technology combinations: A comparison of literature from high and low/middle income countries. *Methods Inf Med.* 2017;56(Open):e105–e122.
6. Yepes M, Jürgen Maurer J, Viswanathan B, Gedeon J, Bovet P. Potential reach of mHealth versus traditional mass media for prevention of chronic diseases: Evidence from a nationally representative survey in a middle-income country in Africa. *J Med Internet Res.* 2016;18(5):1-14.
7. Wootton W, Wu W, Bonnardot L. Nucleating the development of telemedicine to support healthcare workers in resource-limited settings: a new approach. *J Telemed Telecare.* 2013 Oct;19(7):411-417.
8. Shaw T, McGregor D, Brunner M, Keep M, Janssen A, Barnet S. What is eHealth? Development of a conceptual model for eHealth: Qualitative study with key informants. *J Med Internet Res.* 2017;19(10):1-12).
9. Mauco KL, Scott RE, Mars M. Development of an eHealth readiness assessment framework for Botswana and other developing countries: Interview study. *JMIR Med Inform.* 2019;7(3):1-10.
10. Kampmeijer R, Pavlova M, Tambor M, Golinowska S, Groot W. The use of e-health and m-health tools in health promotion and primary prevention among older adults: a systematic literature review. *BMC Health Serv Res.* 2016;16(Suppl 5):290. doi:10.1186/s12913-016-1522-3
11. Stephani V, Opoku D, Quentin W. A systematic review of randomized controlled trials of mHealth interventions against non-communicable diseases in developing countries. *BMC Public Health* 2016;16:572. doi:10.1186/s12889-016-3226-3.
12. Amin S, Patel R, Beilan J, Helveston EM, Shaikh S. Telemedicine for retinal care in developing nations: the ORBIS Cyber-Sight programme, 2003–2011. *J Telemed Telecare.* 2014;20(5):282-287.
13 Wilson LS, Maeder AJ. Recent directions in telemedicine: Review of trends in research and practice. *Healthcare Informatics Research.* 2015;21(4):213–222.
14. Beebe J. *Rapid qualitative inquiry: a field guide to team-based assessment.* 2nd ed. Lanham: Rowman & Littlefield; 2014.
15. Gale RC, Wu J, Erhardt T, Bounthavong M, Reardon CM, Damschroder LJ, Midboe AM. Comparison of rapid vs in-depth qualitative analytic methods from a process evaluation of academic detailing in the Veterans Health Administration. *Implementation Science.* 2019;14(11):1-12.
16. Green J, Thorogood N. *Qualitative Methods for Health Research.* 2013. Thousand Oaks: Sage.
17. Dedoose Version 6.1.18, web application for managing, analyzing, and presenting qualitative and mixed method research data (2015). Los Angeles, CA: SocioCultural Research Consultants, LLC (www.dedoose.com).