IMPROVING PUBLIC HEALTH NURSING CAPABILITIES FOR BUILDING NOT FOR PROFIT ORGANIZATIONS’ CAPACITY FOR DISASTER CONTINUITY OF OPERATIONS PLANNING: A PILOT PROGRAM

A DOCTOR OF NURSING PRACTICE PROJECT SUBMITTED TO THE OFFICE OF GRADUATE EDUCATION OF THE UNIVERSITY OF HAWAI‘I AT MĀNOA IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF DOCTOR OF NURSING PRACTICE

NOVEMBER 2015

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Keywords: All Hazards Planning, Continuity of Operations Planning
Abstract

**Introduction:** It is critical during and after any disaster that essential services affecting the health and safety of vulnerable populations continue. To ensure essential services continue, small community not for profit organizations that provide services for vulnerable populations need to have a continuity of operations plan (COOP) in place. Hawaii Public Health Nurses (PHNs) have a role in preparing small community organizations through COOP development ensuring services for the vulnerable continue. Building capacity for COOP in small community not for profit organizations has not occurred. Therefore, this project aimed to improve capabilities of Hawaii Department of Health (HDOH) PHNs to serve as capacity builders for disaster COOP planning and increase the capacity for COOP among small community not for profit organizations.

**Method:** During a 12 week period, a pilot was conducted with 12 HDOH PHNs in four counties. The Johns Hopkins Nursing Evidence Based Practice (JHNEBP) Model (Newhouse, Dearholt, Poe, Pugh, & White, 2007) was used to guide the process of this project. A COOP tool, a training program for PHNs, and a COOP curriculum for PHNs use with small community not for profit organizations were designed during the project. The PHNs’ training program and community COOP curriculum was evaluated using instruments designed by the Doctor of nursing practice (DNP) student. The PHNs’ knowledge, confidence, and competence in implementing the COOP tool and curriculum, and facilitators and barriers were evaluated using Likert scales, open-ended questions and open discussion.

**Results:** Three PHNs implemented COOP with a community organization. Two of three PHNs (66%) reported an increase in competence and confidence in using the COOP tool and curriculum. Two of three community organizations expressed interest in developing a COOP for
their organization. Results also showed, PHNs’ experience level was a factor for engaging small community not for profit organizations for COOP development.

**Discussion:** PHNs are an excellent resource in building small community not for profit organizations’ capacity for continuity of operations disaster planning. Based on findings, it is recommended that Hawaii PHNs continue to implement the COOP tool and curriculum with small community not for profit organizations.
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Chapter 1. Executive Summary

Introduction

When disasters strike, it is important that critical infrastructures including hospitals, utilities, sanitation, water, health services, social services, and housing continue to function. In fact, to ensure critical services during and after disasters are not disrupted, large infrastructures such as hospitals and utilities have developed disaster plans. Vulnerable populations rely on small community not for profit organizations to provide services that impact public health. Unlike large infrastructures, small community not for profit organizations have not developed COOP to ensure critical services for vulnerable populations continue when disasters occur.

Hawaii PHNs have focused on individual and family disaster preparedness for vulnerable populations. Individual and family preparedness is important, but so is preparing small community not for profit organizations to ensure an array of continued public health services in the disaster aftermath for vulnerable populations. Prior to project implementation, Hawaii PHNs did not approach small community not for profit organizations to start the process for COOP development ensuring essential health and social services continue.

Results of the literature review revealed there was a gap for PHNs educating small community programs about disaster COOP planning which prompted the development of a COOP tool and curriculum for small community not for profit organizations, and a COOP training program for PHNs.

Methods:

The JHNEBP Model (Newhouse et al., 2007) served as the framework for this project. A low cost PHN training program and COOP curriculum was developed as a means for COOP planning for the small not for profit organization. As a part of the training program, a COOP
template was developed from the evidence located in the literature as well as a PowerPoint presentation that was used as the curriculum for COOP with community organizations.

Twelve PHNs with various experience levels from four counties participated in this project and were trained on the COOP tool and curriculum for implementation with small community not for profit organizations within their PHN service area.

A logic model outlined the outcomes and objectives used to evaluate PHNs’ practice change. Instruments developed for this project measured the PHNs’ knowledge, confidence, and competence in implementing the COOP tool with small community not for profit organizations.

**Findings:**

A COOP training program for PHNs was implemented and revealed that Hawaii PHNs had a pre-existing knowledge of COOP prior to project implementation, however, did not reach out to community organizations for COOP planning.

During the 12 week project, three PHNs implemented the COOP tool and curriculum to increase the capacity of small community not for profit organizations for continuity of operations planning. Although, no community organization COOP was completed during this project, the education about disaster planning with small community not for profit organizations was promising in that two organizations expressed interest to continue working with PHNs for COOP development.

The results also found that entry level PHNs did not have the experience necessary for COOP development with small community not for profit organizations.

**Recommendations:**

Based on the findings, it is recommended to train Hawaii PHNs at an intermediate or journeyman level on the use of the COOP tool template and curriculum for small community not
for profit organizations. It is also recommended for PHNs to continue to utilize the COOP tool to build capacity within small community not for profit organizations in COOP disaster planning.
Chapter 2. Problem

Background

The role of public health is to protect the health of the public at all times including during and after disasters. Disasters can come in many forms and have the potential to degrade or destroy the infrastructure that supports the public’s health including housing, water, sanitation, waste, health, and social services. Historically, large utility companies and organizations such as hospitals and fire departments have in place comprehensive disaster preparedness, response, and recovery plans. However, small community not for profit social agencies that support vulnerable groups in the community do not have such plans in place. During and after disasters, it is important that all sectors are kept safe.

Problem

Implementing interventions for disaster preparedness at the community level is critical. The US Department of Homeland Security (2013), recommended community organizations plan for the effects of hazards through COOP.

Key roles of PHNs during all phases of a disaster included community education and ensuring that essential public health services continue (Association of Public Health Nurses, 2013). To date, PHNs in Hawaii have focused on educating communities about individual and family preparedness using key messages from the Hawaii Department of Health (HDOH) (State of Hawaii Department of Health, 2015). These key messages are:

- Make a plan - develop an individual and family communication and evacuation plan
- Make a kit - create a kit with essential items needed for sheltering in place or evacuating from home
• Stay informed - tuning in to State and County approved media for accurate information about the disaster

The problem is, thus far, PHNs in Hawaii have not included education for community not for profit organizations to ensure that essential public health services continue through COOP development. Additionally, PHNs have not explored materials and resources needed to support community organizations, businesses, and service providers in developing COOP nor have they developed a standard curriculum or intervention for PHNs’ use. Therefore, this project used the evidence to develop a COOP template, validated the COOP template, developed COOP training materials and trained PHNs on the COOP tool and curriculum for small community not for profit organizations, and the project was evaluated.

**Conceptual Framework**

The Johns Hopkins Nursing Evidence Based Practice Model (Newhouse et al., 2007) was selected to support PHNs activities during this project. The JHNEBP Model was selected, because it uses evidence from both empirical and non-empirical research for nursing practice change, recommended a small sample size, and thus fits with this project. The three phases to the JHNEBP model are practice, evidence, and translation (Newhouse et al., 2007).

**Practice**

The practice question was, “what is an effective intervention for increasing Hawaii PHNs’ knowledge, competencies, and confidences in assisting small community organizations and service providers in developing a COOP?” From the practice question, a PICO (P=patient population or problem; I=intervention; C=comparison with other interventions; O=outcomes) was developed that was answered during the evaluation of this project. The PICO for this project was, “Is PHN COOP education effective for building capacity among small community not for
profit organizations in development of their own COOP?” For this project, there was no
collection with other interventions.

A project team was formed and consisted of the DNP student, the HDOH PHN Branch
quality assurance coordinator, HDOH data leads and information technology and support
technician (ITST), and a consultant from Hawaii Air National Guard Community Medical All
Hazards Readiness Training (HIANG CMART).

Evidence

CINAHL, PubMed, Medline, Google Scholar, Health Sources Nursing/Academic
Edition, and Alt Health Watch databases were used to conduct an electronic search for literature.

Search terms used included, “all hazards preparedness” or “disaster preparedness” or
“emergency preparedness” and “community”, “public health nurse”, “competency”, “skills”,
“pandemic”, “bioterrorism”, “natural disaster”, “risk assessment”, “tool”, “surge”, or “training”.

Additional filters applied were government publications, guidelines, practice guideline, review,
technical report and validation studies. Words entered into search terms were “all hazards
preparation” or “disaster preparedness” or “emergency preparedness” AND “community”,
“public health nurse”, “competency”, “skills”, “pandemic”, “bioterrorism”, “natural disaster”,
“risk assessment”, “tool”, “surge”, or “training”. Articles excluded in the synthesis focused on
policy changes, large all hazards surveys, and were applicable to only large infrastructure and
community collaborations. In total, 103 articles were reviewed, and 23 of these were included in
the synthesis. Articles included in the synthesis were published between 2002 and 2013.

Critique and synthesis. The tools included in the JHNEBP Model (Newhouse et al.,
2007) were used to rate the strength and quality of evidence (Appendix A). Nine of 23 articles
were research and 14 were non-research. Table 1 summarizes the evidence level and quality, type of evidence and the number of articles.

Table 1.

**Literature Evidence Ratings**

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<thead>
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<th>Evidence level</th>
<th>Research or Non-Research</th>
<th>Evidence quality</th>
<th>Type of evidence</th>
<th>Number of articles</th>
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<td>R</td>
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<td>Non-experimental</td>
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<td>III</td>
<td>R</td>
<td>B</td>
<td>Non-experimental</td>
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<td>III</td>
<td>R</td>
<td>C</td>
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<tr>
<td>IV</td>
<td>NR</td>
<td>B</td>
<td>Clinical Practice Guidelines</td>
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*Note.* Research evidence appraisal: Level I= experimental or meta-analysis, Level II = quasi-experimental, and Level III = meta-synthesis, non-experimental, or qualitative studies. Non-research evidence appraisal: Level I-IV = systematic reviews, Level IV = clinical practice guidelines, and Level V = organizational (quality improvement), expert opinion, case study, and literature reviews (Newhouse et al., 2007). R = research articles and NR = non-research articles. Quality of evidence A = high, B = good, C = major flaw (Newhouse et al., 2007).
Table 2 summarizes the 23 articles included in the literature synthesis categorizing the articles by the recommendations or findings.

Table 2.

**Literature Synthesis Evidence**

<table>
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<th>ICS</th>
<th>COOP</th>
<th>Communication method/system</th>
<th>Exercise drilling</th>
<th>Planning</th>
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*Note.* Research evidence appraisal: Level II = quasi-experimental, and Level III = meta-synthesis, non-experimental, or qualitative studies. Non-research evidence appraisal: Level IV = clinical practice guidelines, and Level V = organizational (quality improvement), expert opinion, (Newhouse et al., 2007). R = research articles and NR = non-research articles. ICS – Incident Command System establishes chain of command. COOP – continuity of operations plan are developed by organizations to continue essential services during and after disasters. Communication methods/systems – disaster communication equipment. Exercise/drilling – practicing disaster plans. P = Planning (personal) - developing personal disaster plans. A = Planning (agency) – developing agency or organizational disaster plans. Risk awareness – past and potential disasters that have or may occur affecting the organization.
There were limitations and weaknesses to the evidence. No Level I (experimental or meta-analysis) evidence was included in the synthesis. The synthesis was limited to mainly non-research evidence. Evidence mainly focused on roles throughout the phases of a disaster. Less than half of the evidence located were specific to PHNs or nurses in general. The articles were limited to roles and functions of PHNs, health care workers, or public health workers in the community. Articles did not include engaging community organizations in disaster preparedness.

**Practice and guidelines from the evidence.** The evidence in the literature review and synthesis recommended seven areas for knowledge and skills for disaster preparedness, response, and recovery. The seven areas were Incident Command System (ICS), COOP, communication methods and systems, exercising and drilling, personal and multiagency planning, risk awareness, and roles.

*Continuity of operations planning.* The US Department of Homeland Security (2011), the lead national agency for disaster preparedness, recommended community organizations and businesses formulate a COOP as a part of community resiliency. A COOP’s purpose is to map out an organization’s plan to ensure essential services continue during and after disasters. This includes identification of the impact the disaster would have on the organization, formulating strategies, developing plans to assist in recovery, and exercising or drilling the COOP for improvement. (US Department of Homeland Security, 2013).

**Incident command system.** The ICS organizes a response with clear lines of authority and establishes a chain of command (Federal Emergency Management Agency, 2012; Gebbie & Qureshi, 2002; Jakeway, LaRosa, Cary, & Schoenfisch, 2008). A chain of command is developed in COOP and is known as orders of succession.
Communication. Stressed in the articles were communication equipment and identification of communication methods. Implementing COOP functions largely depends on communication to connect leadership, staff in vital positions, and the public (Federal Emergency Management Agency, 2009). The communication methods used should be similar to communications used in everyday function so as not to complicate the process. Staff should be trained on the use of equipment that are not familiar to them (Federal Emergency Management Agency, 2009; Gebbie & Qureshi, 2002; Jakeway et al., 2008).

Exercise and drilling. The Federal Emergency Management Agency (2009) recommended exercising and drilling of COOP to test and substantiate the contents of the plan for strengths and areas for improvement.

Personal planning and preparedness. Qureshi et al. (2005) found that personal and family planning and preparedness affected a worker’s ability to report during a disaster or manmade event. It is also recommended that organizations provide support for personal and family disaster preparedness as a part of COOP.

Risk awareness. Risk awareness describes the knowledge of past and potential disasters and emergencies that have or may occur. Organizations include in COOP specific plans for incidents that have occurred or will most likely occur that will impact the organization’s ability to continue operations. Risk awareness empowers organizations to plan for those risks and develop strategies to lessen the risks.

Roles. As a part of a COOP, the organization’s essential roles are identified for maintaining operations. These roles vary and are based on the mission of the organization. The roles are a part of essential functions cited in COOP (Federal Emergency Management Agency,
2012; US Department of Homeland Security, 2013). Staff that are part of COOP are informed of their roles and are trained.

**Translation**

During the translation phase, the evidence was “translated” into nursing practice and implemented. First, a COOP tool was developed based on the evidence from the literature and the tool was validated. Secondly, a COOP tool training program and PowerPoint used as the curriculum for small community not for profit organizations were developed for Hawaii PHNs. A timeline and logic model was developed that evaluated the project. Next, the PHN Branch Emergency Preparedness & Response Steering Committee was informed of the COOP tool project and the pilot was conducted. Finally, the project was evaluated for feasibility and general implementation for Hawaii PHNs. The last step in the translation phase was sharing of the results. The results were shared with Hawaii DOH administration and the PHN’s DNP committee.

**Summary**

The literature contained several guidelines that were useful to prepare for any manmade or natural disaster. These included ICS for small community not for profits; communication; exercising and drilling; personal and family preparedness and planning; risk awareness; and roles. No Level I experimental evidence was located in the literature review. The literature lacked the resources and tools for PHNs to assist small community not for profit programs for COOP development. Also lacking was a curriculum for COOP development for small community not for profit organizations that could be utilized by PHNs.
Chapter 3. Methods

Introduction

The DNP student designed the COOP tool and curriculum, the data collection methods and project outcomes and objectives due to limited resources for COOP disaster planning for small community not for profit organizations. The data was also analyzed by the DNP student.

Design

Pretests, post tests, and questionnaires were used for the project evaluation. The project collected both quantitative data using a five point Likert scale as well as qualitative data using open-ended questions and opportunities for providing reflection and input.

Definitions

The Federal Emergency Management Agency (FEMA) definition for COOP was used for the project. “Continuity of Operations is an effort within individual organizations to ensure that essential functions continue to be performed during a wide range of emergencies including localized acts of nature, accidents, technical or attack-related emergencies” (US Department of Homeland Security FEMA, 2013).

Setting and Sample

Hawaii PHNs are located on six of the eight Hawaii Islands (four counties). The District Health Offices (DHOs) for Kauai, Maui, and Hawaii Counties are responsible for PHNs in their counties, and the PHN Branch Chief is responsible for Honolulu County PHNs (Appendix B). PHNs’ roles for all counties are specific to the county. Any geographic area in the four counties was used for the community setting. All four counties in the state were represented in the project.

Initially, nine PHNs were recruited from the PHN Branch Emergency Preparedness & Response Steering Committee. Requests from PHNs’ supervisors recruited three more PHNs.
The level of PHNs ranged from Level II (entry level) to IV (journeyman level). Table 3 states the number of PHNs recruited by county and nursing section.

Table 3.

**PHNs Recruited per County**

<table>
<thead>
<tr>
<th>Counties and PHNs’ Sections</th>
<th>Number of PHNs recruited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Hawaii County</strong></td>
<td>3</td>
</tr>
<tr>
<td>Hilo</td>
<td>1</td>
</tr>
<tr>
<td>Kau</td>
<td>1</td>
</tr>
<tr>
<td>Kona</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Honolulu County</strong></td>
<td>7</td>
</tr>
<tr>
<td>Central</td>
<td>1</td>
</tr>
<tr>
<td>East Honolulu</td>
<td>1</td>
</tr>
<tr>
<td>Leeward</td>
<td>3</td>
</tr>
<tr>
<td>West Honolulu</td>
<td>1</td>
</tr>
<tr>
<td>Windward</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Kauai County</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Maui County</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>N = 12</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Continuity of Operations Plan Development**

This COOP tool was developed from existing tools from established agencies such as FEMA and the National Association of County and City Health Officials (NACCHO) and small business templates. The COOP tool content was validated by a Hawaii Air National Guard Community Medical All Hazards Readiness Training representative and a faculty member who has conducted research in the area of disaster preparedness. Tool reviewers provided feedback on the content of the tool for applicability and application for small community not for profit organizations. Feedback received from reviewers were incorporated into the tool.
PHN Curriculum and Training

Once the COOP tool template was completed, the curriculum for training PHNs was developed. A PowerPoint presentation was developed to educate PHNs about COOP key points. Table 4 outlines the training topics covered.

Table 4.

PHN Training Topics

<table>
<thead>
<tr>
<th>Education session topic</th>
<th>Key points</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP talking points with small community not for profit organizations</td>
<td>- Key components of COOP i.e. roles (essential functions), risk awareness, communication, ICS (orders of succession), individual and family preparedness, alternate facilities, and exercise and drilling.</td>
</tr>
</tbody>
</table>
| Engaging community programs                                | - Recognize organizations’ strengths  
- Identify organizations’ personnel for developing a COOP  
- Develop COOP that aligns with organizations’ mission, vision, or goal statements  
- PHNs work with organizations to develop COOP that meets organizations’ needs |
| COOP tool administration                                   | - Written COOP instructions reviewed with PHN  
- COOP curriculum for small community not for profit shared with PHNs  
- Identified and planned for potential concerns in building capacity in small not for profit organizations |
| COOP tool data collection                                  | - Public Health Activity Reporting System  
- Nursing practice questionnaire  
- Program feedback form  
- Facilitators and barriers identification                    |
| Documentation of COOP activities                           | - Anecdotal field notes                                                                                                                                             |

A second PowerPoint presentation was developed for PHNs’ to use with small community not for profit organizations. This second PowerPoint presentation served as the curriculum for COOP with community organizations. The small community not for profit COOP
curriculum provided the organizations with an explanation about COOP and highlighted the COOP tool sections.

**Conducting training.** To connect the four counties and keep training costs to a minimum, Skype for Business (software to conduct online meetings) and face-to-face presentations (for Oahu) were chosen to provide COOP training for PHNs. The technology used for the trainings was part of PHNs’ everyday use and there was no extra costs for PHNs’ administration for utilizing this technology.

**Marketing and reminders.** Microsoft SharePoint 2010, which was familiar to PHNs, was used to communicate during the project and was used as a repository for the PHNs’ training program, the COOP tool and curriculum for small community not for profit organizations and data collection forms. SharePoint was accessible from any computer with an internet connection making it practical for the project.

The monthly Emergency Preparedness & Response Steering Committee meeting was used to share information between PHNs participating in the project. This forum was also used for sharing facilitators and barriers and problem solving issues for engaging small community not for profits organizations for COOP planning and development.

Emails sent regularly to PHNs also served as reminders for the project to engage small community not for profit to develop a COOP. Email check-in with the group was also a forum to share facilitators and barriers to implementing the COOP tool and curriculum.

**Data Collection**

The Public Health Reporting System was used to collect data on the encounters between PHNs and small community not for profit organizations. This system recorded PHNs’ name,
encounter date, time spent and the number of participants from small community not for profit organizations. The DNP student retrieved the data from the Public Health Reporting System.

Tools that collected quantitative and qualitative data during project implementation included Likert scales, open-ended questions, and multiple choice questions. Data to evaluate process and outcome measures were collected at several points and were mainly descriptive.

Microsoft Excel 2013 version was used to collate and input data from the pretests and post tests, nursing practice questionnaire (NPQ), program feedback form, and facilitators and barriers survey. Tables and graphs displays were used to share data with PHNs’ administrators.

**Process measures.** Process measures marked the milestones for this project and finished products were used to measure the progression of this project. Figure 1 depicts the processes used to mark milestones for this project.

![Process Outcomes Diagram](image)

*Figure 1 Process Outcomes*
Outcome measures. Table 5 shows outcome measures along with data collection instruments and methods used for the pilot project.

Table 5.

Data Collection Methods for Outcome Measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>Instruments</th>
<th>Data collection point</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td># of PHNs knowledgeable about COOP</td>
<td>COOP pretests and post tests</td>
<td>Immediately before and after PHNs’ COOP training</td>
<td>Quantitative statistics, descriptive data and simple data summaries</td>
</tr>
<tr>
<td># of PHNs confident in building capacity in small community not for profit programs in developing COOP</td>
<td>NPQ</td>
<td>Monthly</td>
<td>Quantitative statistics, descriptive data and simple data summaries</td>
</tr>
<tr>
<td># of PHNs competent in building capacity in small community not for profit programs in developing COOP</td>
<td>NPQ</td>
<td>Monthly</td>
<td>Quantitative statistics, descriptive data and simple data summaries</td>
</tr>
<tr>
<td># of PHN completing COOP with small community not for profit programs with a COOP</td>
<td>The Public Health Reporting System NPQ</td>
<td>Quarterly</td>
<td>Descriptive data and simple data summaries</td>
</tr>
<tr>
<td># of small community not for profit programs with a COOP</td>
<td>The Public Health Reporting System NPQ</td>
<td>Monthly</td>
<td>Descriptive data and simple data summaries</td>
</tr>
</tbody>
</table>

Note. NPQ=Nursing Practice Questionnaire

Measurements

**Pretests and post tests.** The same questions measured knowledge on pretests and post tests. The pretests and post tests consisted of four multiple-choice questions and one fill in the blank question (Appendix C). Prior to COOP tool training, PHNs that participated completed a pretest about general knowledge on COOP. Following the training, PHNs completed a post test.

**Nursing practice questionnaire.** The nursing practice questionnaire (Appendix D) collected PHNs’ responses to practice changes. The questionnaire used a five point Likert Scale.
(1 not at all, 2 slightly, 3 somewhat, 4 moderately, and 5 extremely) to determine PHNs’ confidence and competence in administering the COOP tool and training curriculum as well as data input. The NPQ also asked PHNs to identify barriers to implementing the COOP tool. Lastly, the NPQ asked open-ended questions about PHNs’ change in practice. PHNs completed the NPQ at two points in time; first following PHNs’ COOP training and secondly after the COOP tool and curriculum was implemented with small community not for profit organizations.

Facilitators and barriers survey. This survey asked PHNs to identify from a list of facilitator and barrier statements all statements applicable to them during implementation of the COOP tool. The survey contained seven facilitator statements and nine barrier statements. The survey also allowed PHNs to record facilitators and barriers not listed on the survey (Appendix E).

Program feedback. When PHNs implemented the COOP tool curriculum with a not for profit organization, the organization was asked to complete a program feedback form (Appendix F) about their COOP experience with PHNs. If the not for profit organization completed a COOP tool, they were asked to provide feedback about the COOP tool. The survey also asked not for profit organizations to rate their organization’s likelihood in developing a COOP and the importance of COOP to their organization. Like the nursing practice questionnaire, the program feedback form used the same five point Likert Scale as the NPQ to rate the organization’s experience with PHNs, the COOP tool, and organizations’ likelihood for COOP development.

Project Evaluation

A logic model was developed for this project (Appendix G).

Project outcomes and objectives. Specific objectives were developed that measured the outcomes. The outcomes and objectives are stated in Table 6.
Table 6.

*Project Outcomes and Objectives*

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Objectives</th>
</tr>
</thead>
</table>
| Increase the number of PHNs knowledgeable about COOP | • At least one PHN from each nursing section is trained to use the COOP Tool and curriculum (target 9 PHN)  
• At least 75% of PHNs participating in COOP training have an increase in knowledge. |
| Increase the number of PHNs confident in building capacity in not for profit organizations in developing COOP | • At least 50% of PHNs trained to use the COOP tool and curriculum will report being confident implementing COOP with small community not for profit organizations.  
• At least 50% of PHNs that met with small community not for profit organizations will report being confident implementing COOP with small community not for profit organizations. |
| Increase the number of PHNs competent in building capacity in not for profit organizations in developing COOP | • At least 50% of PHNs trained to use the COOP tool will report being competent implementing COOP with small community not for profit organizations.  
• At least 50% of PHNs that met with small community not for profit organizations will report being competent implementing COOP with small community not for profit organizations. |
| Increase the number of PHNs completing COOP with not for profit organizations | • At least one PHN trained on the COOP tool will engage community program to complete a COOP. |
| Increase the number of not for profit organizations with a COOP | • At least one community program will complete a COOP with PHN assistance. |

**Timeline for project**

The timeline for the project was eight months starting from COOP template development to evaluation. The project pilot (implementation of COOP) started in August and finished in November and concluded after twelve weeks. The data analysis was completed in November.
Institutional Review Board

Application for exemption was submitted to the University of Hawai‘i Mānoa Committee on Human Studies (CHS), which decided the project did not fall under the scope of the Human Studies Program (Appendix H).

Limitations

Although PHN practice should be consistent statewide, there are some differences between the PHN offices. Kauai, Maui, and Hawaii County PHNs fall under District Health Offices. These differences were not controllable, though efforts are made to have consistent practice across the state. Even though all efforts were made to include PHNs from each of the counties, the sample size was small. Furthermore, the implementation period did not allow for adequate periods of time to follow up with small community not for profit organizations. Additionally, PHNs’ priorities during the implementation of the project were focused on school aged children attending Hawaii’s public schools and these efforts may have been hampered.

Limitations for data were that analysis was necessarily descriptive and does not infer cause and effect of this project. Lastly, the use of untested instruments (reliability and validity) may have limited the analysis and interpretation of the findings.

Small community not for profit organizations’ interests, priorities, and availability were also limitations to the project. Organizations’ availability to meet with PHNs within the project timeframe limited PHNs in implementing the COOP tool and curriculum with them.

Summary

The lack of COOP tools that are applicable to small community not for profit organizations necessitated the development of a COOP tool and curriculum for this project. The
methods used for the COOP tool validation ensured the contents were applicable for small community not for profit organizations for COOP development.
Chapter 4. Results

Objectives

The main objective of this project was to strengthen PHNs’ capacity to educate small not for profit organizations to develop a COOP for their organization. To measure PHNs’ capacity, pretests and post tests, a nursing practice questionnaire, and facilitators and barriers were analyzed.

Sample

Twelve PHNs from nine PHN sections from four counties in Hawaii participated in the COOP pilot. Two PHNs were Level II (entry level), two were Level III (intermediate level) and eight were Level IV (journeymen level). Hawaii County and Leeward PHN sections both had three (50% of all PHNs participating) PHNs trained on COOP. The other seven nursing sections had one PHN trained during the pilot. Seven of the 12 (58%) PHNs trained were from the County of Honolulu. Table 7 shows the breakdown of counties, PHNs’ sections, PHNs’ level and the number trained.
Table 7.

**PHNs Trained on COOP**

<table>
<thead>
<tr>
<th>County and PHN Section</th>
<th>PHN Level</th>
<th>Number of PHN trained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hilo</td>
<td>IV</td>
<td>1</td>
</tr>
<tr>
<td>Kau</td>
<td>II</td>
<td>1</td>
</tr>
<tr>
<td>Kona</td>
<td>II</td>
<td>1</td>
</tr>
<tr>
<td>Honolulu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>IV</td>
<td>1</td>
</tr>
<tr>
<td>East Honolulu</td>
<td>IV</td>
<td>1</td>
</tr>
<tr>
<td>Leeward</td>
<td>IV</td>
<td>2</td>
</tr>
<tr>
<td>Leeward</td>
<td>III</td>
<td>1</td>
</tr>
<tr>
<td>West Honolulu</td>
<td>IV</td>
<td>1</td>
</tr>
<tr>
<td>Windward</td>
<td>IV</td>
<td>1</td>
</tr>
<tr>
<td>Kauai</td>
<td>IV</td>
<td>1</td>
</tr>
<tr>
<td>Maui</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molokai</td>
<td>III</td>
<td>1</td>
</tr>
</tbody>
</table>

N=12

**Process and Outcome Measures Results**

**Process outcome results.** The process outcome results are in Table 8.

Table 8.

**Process Outcomes Results**

<table>
<thead>
<tr>
<th>Process Outcomes</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use evidence to develop COOP tool template</td>
<td>A COOP tool template was drafted.</td>
</tr>
<tr>
<td>Validate COOP tool (content validity)</td>
<td>A completed COOP tool template and curriculum.</td>
</tr>
<tr>
<td>Develop COOP training for Hawaii PHNs</td>
<td>Training developed. Training key points: COOP components, engaging community organizations, COOP tool administration, data collection and documentation of COOP. A completed COOP curriculum for small community not for profit organizations.</td>
</tr>
<tr>
<td>Train PHNs on COOP</td>
<td>Four PHN training sessions occurred.</td>
</tr>
<tr>
<td>Evaluate the PHNs’ training program</td>
<td>Simple data analysis was performed.</td>
</tr>
<tr>
<td>Improved process</td>
<td>Train only Level III and IV PHNs on COOP.</td>
</tr>
<tr>
<td>COOP tool training procedure for PHN</td>
<td>Delivered to Hawaii PHN administration.</td>
</tr>
</tbody>
</table>
**COOP tool development.** For this project, a COOP tool and curriculum (Appendix I) was developed for PHNs’ use to educate small community not for profit programs for COOP planning. Small community not for profit organizations that met with PHNs also provided feedback about the COOP template. The not for profit organizations (three of three) reported that the time needed to complete the COOP tool and the length of the tool was “not at all” too long. Additional data gathered on the COOP tool showed two of three (66%) organizations reported the COOP tool directions were “extremely” easy to follow while one of three (33%) reported the directions were “not at all” easy to follow. The tool was reviewed for ease of use and adjusted based on the comments.

As for the COOP tool sections being applicable to the organizations, the organizations’ answers varied. One of three (33%) reported the sections were “not at all” applicable to their program, another reported the sections were “somewhat” applicable to their program, and the third reported the sections were “extremely” applicable to their program. Figure 2 depicts organizations’ feedback about the COOP tool.

![Figure 2 Program COOP Tool Feedback](image)

*Figure 2 Program COOP Tool Feedback. N=3.*
**COOP training for PHNs.** All PHNs participating in the project completed COOP training during August and September 2015. Four PHN training sessions were conducted. Two training sessions were conducted using Skype for Business and two through face-to-face contact. The training sessions took approximately 90 minutes to complete. An attendance log was completed for each training session.

**Outcome measures results**

**PHNs’ COOP knowledge (pretests and post tests).** The pretests results for PHNs’ COOP knowledge showed that five of 12 (42%) PHNs answered at least one question incorrectly; seven of 12 PHNs (58%) answered all questions correctly. Of the five with an incorrect answer on the pretests, four of the five (80%) improved their test scores on the post tests. No PHN answered more than one question incorrectly on the pretests and post tests. Table 9 displays the questions and the number of correct responses for both pretests and post tests.

Table 9.

**Number of Correct Responses for Pretests and Post Tests**

<table>
<thead>
<tr>
<th>Pretests and post tests question</th>
<th># PHN answered correctly (pretest)</th>
<th># PHN answered correctly (post test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP Purpose</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>COOP components</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Orders of Succession</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>COOP Exercise</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Individual/Family Preparedness</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

*Note.* N=12

Eleven of 12 (91%) PHNs answered all questions correctly on the post tests. There was an increase in the average post tests scores from the pretests scores, 4.58 to 4.91. Figures 3 and 4
illustrate combined average scores for pretests and post tests and the overall number of correct responses per PHNs’ pretests and post tests.

Figure 3 Pretests and Post Tests Average Scores

Figure 4 Pretests and Post Tests Correct Responses per PHN. Number of correct responses = 5.
**Nursing practice questionnaire.** Nine of 12 (75%) PHNs trained on the COOP tool and curriculum responded to the NPQ. Of the nine who responded, five (56%) PHNs completed the entire NPQ. The number of responses varied per question therefore, percentages were based on the actual number of PHNs that responded to that specific question.

Using the five point Likert Scale (1 not at all, 2 slightly, 3 somewhat, 4 moderately, and 5 extremely), PHNs rated themselves on their confidence and competence in implementing COOP with small community not for profit organizations. Two of eight (25%) PHNs rated themselves as “not at all” confident, four of eight (50%) rated themselves as “somewhat” confident, and two of eight (25%) PHNs rated themselves as “moderately” confident in implementing COOP with small community not for profit organizations (Figure 5). The results for PHNs’ competence were three of eight (37%) PHNs rated themselves as “not at all” and “somewhat” competent for COOP administration. One of eight (13%) PHNs reported either “slightly” or “moderately” competent implementing COOP. No PHNs rated themselves as “extremely” confident or competent implementing the COOP tool prior to utilizing the COOP template with small community not for profit organizations (Figure 5).

![Figure 5 PHN Confidence and Competence in Administering COOP Tool. N = 8.](image-url)
Of the 12 PHNs who participated in the project, three (25%) PHNs implemented the COOP tool and curriculum with small community not for profit organizations. PHNs rated their confidence in administering COOP prior to and after they implemented COOP with a small community not for profit organization. Prior to COOP implementation, one of three (33%) PHNs rated their confidence in administering the COOP tool and curriculum as “not at all”, “somewhat”, and “moderately”. After using the COOP tool with an organization, 33% (one of three) PHNs rated their confidence as “somewhat” and 66% (two of three) “moderately” (Figure 6). This was an increase in competence for PHNs.

![PHN COOP Tool Administration Confidence](image)

*Figure 6 PHN COOP Tool Administration Confidence. The figure depicts the PHNs’ confidence before and after administering the COOP tool. N = 3.*

The three PHNs’ ratings of their competence before using the COOP tool showed one (33%) PHN was “not at all”, the second “slightly” and the third “moderately” competent in administering the COOP tool. After implementing the COOP tool and curriculum with an organization, one (33%) PHN rated their competence as “somewhat” and two (66%) “moderately” (Figure 7). This was an increase in competence for PHNs.
Figure 7 PHN COOP Tool Administration Competence. The figure depicts the PHNs’ competence’ before and after administering the COOP tool. N = 3.

Nursing practice questionnaire barriers for COOP implementation. The percentages for this portion of the NPQ are based on the number of responses for each barrier statement. Using the same five point Likert scale, PHNs rated the barrier statements.

For the statement “length of time to complete a COOP tool,” six PHNs responded to this barrier statement. The data showed four of six (66%) reported “not at all” and 33% (two of six) reported this was “moderately” a barrier.

For the statement “length of COOP tool is too long,” six PHNs responded. The data showed three of six (50%) PHNs reported “not all”, one of six (17%) “slightly”, and two of six (33%) “somewhat” to the COOP tool being too long.

For the statement “small not for profit community program does not understand COOP”, six PHNs responded. Two of six (33%) reported “not at all”, three of six (50%) “somewhat”, and one of six (17%) “extremely”.

For the statement “program not interested in learning COOP”, six PHNs responded. Three of six (50%) PHNs reported “not at all”, two of six (33%) “somewhat” and one of six (17%) “moderately”.
For the barrier statement “PHN has difficulty engaging small not for profit community program”, PHNs’ results were two of seven (29%) reported “not at all”, another two were “slightly”, and the last two were “somewhat”. The last PHN rated this statement as “extremely”.

Seven PHNs responded to the statement “PHN not comfortable sharing COOP with community program”. Of the seven, three (43%) PHNs responded “not at all” and another three rated this statement as “moderately”. One (14%) PHN rated this barrier statement as “somewhat”.

Six PHNs responded to the barrier statement “PHN does not see the importance of COOP for small community not for profit program”. Of the six, five PHN (83%) rated this statement as “not at all”. The last PHN (one of six) rated this statement as “somewhat”.

Eight PHNs responded to the barrier statement “PHN does not have enough time to complete COOP with community programs” and “PHN does not have time to follow up with small not for profit community programs to complete COOP”. The responses for these two statements were the same. Two of eight (25%) PHNs reported being “not at all”, “slightly” and “moderately” to these statements. One of eight (13%) PHNs rated these statements as “somewhat” and extremely”. Figure 8 illustrates the data for the practice barriers to PHNs implementing the COOP tool and curriculum with small community not for profit programs.
Figure 8 Nursing Practice Barriers for PHN using COOP with Community Organization.

As a part of the nursing practice questionnaire, PHNs were asked, “since learning about the COOP tool how has your practiced changed?” Responses to this open-ended question were:

- “If time permits, I review the COOP tool to gain a better understanding. I’m still having a difficult time understanding the COOP tool and how to present to community program.”
• “I have increased discussion with community groups and brought it to the attention of our district health officer that also mentioned a program that may offer free generators to some of the essential businesses.”

• “It’s given me a better understanding of what a COOP is and how it is important for all programs to have in place to address all hazards preparedness.”

• “I’ve been actively trying to connect with community programs to implement and I have something to offer. Community programs have been resistant or we have just had a hard time agreeing upon a time to meet or complete.”

• “I’m more likely to include all hazards preparedness when working with community programs where I didn’t necessarily before.”

Program feedback form. Small community not for profit organizations that completed the COOP tool and curriculum with PHNs provided feedback about their experience with PHNs, the COOP tool, and COOP for their program. Four representatives from three organizations completed the program feedback form. The program feedback form utilized the same five point Likert scale as the NPQ.

Three of four (75%) organization representatives reported PHNs were “extremely” knowledgeable about COOP, “extremely” comfortable explaining COOP to organization representatives, and “extremely” confident in explaining COOP. One of four (25%) organization representatives rated PHNs as “moderately” for the same three statements (Figure 9).
The program feedback form also asked representatives to provide feedback about COOP for their program. Four representatives from three organizations completed this portion of the form.

Three of four (75%) representatives responded “moderately” to the following three statements, “my program will likely work with PHNs to learn more about COOP”, “it is important for me and/or my program to develop a COOP”, and “I and/or my program will likely develop a COOP”. One of four (25%) representatives responded with “extremely” to the same three statements (Figure 10).

Figure 9 Not for Profit Program COOP Experience with PHNs. N = 4.

Figure 10 Not for Profit Program COOP Development Feedback. N = 4
In the open comments section of the program feedback form, one organization wrote, “(COOP) very timely for our organization, as we on board several new employees.”

**Facilitators and Barriers**

Nine of 12 (75%) PHNs completed the facilitators and barriers survey for COOP implementation. Five of nine (56%) PHNs reported facilitators for the project as COOP education for PHNs and PHNs having an established relationship with small community not for profit organizations. Four of nine (44%) PHNs responded having available to PHNs, the COOP tool and curriculum for community organizations as well as PHNs’ knowledge of COOP and its components as facilitators. Three of nine (33%) PHNs identified as a facilitator the language used in the COOP tool was understood by organizations. Lastly, one of nine (11%) PHNs responded knowledge of their Department’s COOP was a facilitator (Figure 11).

*Figure 11 COOP Tool Implementation Facilitators. N= 9.*
The results of the COOP tool implementation barriers were three of nine PHNs (33%) identified “PHN has difficulty engaging community programs” and “PHN does not have enough time to complete COOP with community program” as implementation barriers. The majority of the responses were divided between those two implementation statements. Two of nine PHNs (22%) reported “program not interested in learning COOP”, “program will complete on own”, “PHN not comfortable sharing COOP with community program” and “PHN does not have time to follow up with small not for profit community program to complete COOP” as implementation barriers. One PHN (11%) reported “PHN does not see the importance of COOP with small not for profit community programs” as an implementation barrier. No PHNs reported “takes more than two visits to complete COOP” or length of COOP tool is too long” (Figure 12).

Figure 12 COOP Tool Implementation Barriers. N = 9

Additional implementation barriers identified by PHNs were, “PHNs waiting to get back survey’s from additional community partners so that (PHN) can work with multiple community
programs at one time” and “COOP new – not familiar with all content or presentation, first time using the presentation with community”. One PHN offered further explanation of the barrier statement “PHN does not have enough time to complete COOP with community program…” “at this time, due to school consultation and Stop Flu at School (SFAS). Can do it when school and SFAS slows down.” PHNs’ organization and priorities were also barriers for COOP tool implementation.

**PHN practice barriers and COOP implementation barriers results.** Figure 13 illustrates the barriers for PHNs’ practice and COOP implementation. Three PHNs identified on both the nursing practice questionnaire for PHNs’ and the COOP implementation survey “PHN has difficulty engaging small not for profit programs” and “PHN does not have enough time to complete COOP with community programs” as a barrier.

PHNs identified “program not interested in learning about COOP” and “PHN does not see the importance of COOP for small community not for profit community programs” more as a COOP implementation barrier than a PHNs’ practice barrier.

The “length of the COOP tool”, “PHN not comfortable sharing COOP with community program” and “PHN does not have time to follow up with small not for profit community programs to complete COOP” was identified more as a PHN practice barrier than a COOP implementation barrier. Refer to figure 13.
PHN Practice and COOP Tool Implementation Barriers. Due to the variations in response numbers, only common barriers between COOP implementation and PHN practice are displayed.

**Evolution of COOP Project**

**Expected versus actual outcomes.** It was expected that at least four content experts would have provided feedback about the COOP template. However, only two provided feedback. The number of PHNs participating in the project was also unexpected. There were two more representatives from the County of Honolulu and one more representative from Hawaii County than planned. The projected outcome was set to at least one PHN engaging a small community not for profit organization with the COOP tool template and curriculum. During the course of the project, three PHNs used the COOP tool template and curriculum with an organization.

Starting the pilot during the month of August would allow PHNs a break between the start of public school activities and Stop Flu at School activities to pilot COOP. The expected break between the two activities did not occur allowing little time for PHNs to actively engage small community not for profit organizations with COOP.
One of the expected outcomes was the utilization of the COOP tool and curriculum by PHNs at all levels. The PHNs who utilized the COOP tool and curriculum were Level III and IV PHNs. No Level II PHN utilized the COOP tool or curriculum.

**Barriers to implementation of the project.** The lack of a break period between the start of public school and Stop Flu at School activities was identified as a barrier. Regular check in with PHNs using email and at monthly meetings revealed PHNs’ workload and priorities (PHNs’ and County) were not on utilizing the COOP tool and curriculum with small community not for profit organizations.

The PHNs’ experience level was identified as a barrier to the project. Level II PHNs reported difficulties engaging small community not for profit organizations whereas, Level III and IV PHNs, did not. In addition, Level II PHNs did not utilize the COOP tool or curriculum at any time during the project with an organization.

**Summary**

Small community not for profit organizations provided feedback about the COOP tool and reported the COOP template directions were easy to follow, the time needed to complete COOP was not long, and for the most part, the COOP tool was applicable to the organizations. A PHNs’ COOP training program was developed and this program and COOP tool were pilot tested.

There was an increase in the overall average of PHNs’ pretests and post tests scores measuring knowledge of COOP. The largest increase in incorrect to correct answers applied to the orders of succession question where a quarter of the PHNs answered incorrectly on the pretests and all answered correctly on the post tests.
Three PHNs (1-Level III and 2-Level IV) from the County of Honolulu utilized the COOP tool and curriculum with an organization in the community.

“PHN has difficulty engaging small not for profit programs” and “PHN does not have enough time to complete COOP with community programs” were identified as both PHNs’ practice and COOP implementation barriers. PHNs having an already existing relationship with organizations as well as PHNs’ priorities, impacted the utilization of the COOP tool and curriculum.
Chapter 5. Discussion

The purpose of this project was to increase capacity for PHNs for COOP planning among not for profit organizations in Hawaii. A COOP tool and accompanying training program were developed for Hawaii PHNs use and then pilot tested. PHNs have focused their interventions on preparing vulnerable populations and families to mitigate disasters. Strengthening PHNs’ practice was necessary to work with small community not for profit organizations to be able to mitigate disasters through COOP.

Interpretation of Findings

Process outcomes

COOP template development and validation. One of the processes in this project was to connect with experts in the field of disaster preparedness to validate the content of the COOP tool. During the COOP pilot, the small community not for profit organization also participated in the evaluation of the COOP tool. The findings from the surveys completed by the organizations found the COOP tool to be applicable to their organization. Findings also revealed two of the organizations were interested in continuing discussion with PHNs to develop a COOP for their organizations.

Pretests and post tests knowledge outcome

Increase the number of PHNs knowledgeable about COOP. PHNs demonstrated knowledge gained in one particular area (Orders of Succession) of the COOP tool based on pretests and post tests scores. For the remaining test questions, the preexisting level of knowledge was already high. The minimal lack of differences in the pretests and post tests scores may have suggested that PHNs were knowledgeable about most components of a COOP prior to
implementation of the pilot project. To meet the second objective for this outcome, at least one PHN from each major PHN section participated in the pilot project.

*Increase the number of PHNs confident in building capacity in small community not for profit program in developing COOP.* This project sought to strengthen PHNs’ practice through use of a COOP tool and curriculum designed to educate small community not for profit organizations about the importance of continuing essential services during and after disasters. To do this, some degree of confidence and competence needed to be present. Of PHNs that completed COOP with an organization, the post confidence increased with two out of three (66%) feeling confident. This exceeded the objective set at 50% of PHNs reporting being confident in implementing COOP. PHNs who administered the COOP tool rated themselves with a higher confidence than those who did not. More importantly, PHNs implemented the COOP tool with small community not for profit organizations.

The PHNs who implemented the COOP tool and training program with an organization all worked in Honolulu County and were at the rank of PHN Level III or IV. This finding suggested that the COOP training program is better geared for a more advanced PHN, and this role is more appropriate for PHNs with more experience and a better understanding of the community.

*Increase the number of PHNs competent in building capacity in small community not for profit programs in developing COOP.* For competence, prior to COOP utilization, 50% of PHNs were at the midline or higher in feeling competent in administering COOP. Following implementation with an organization, post competence increased with two of three (66%) feeling competent in administering COOP. PHNs who administered the COOP tool rated themselves
with a higher competence than those who did not. This result also exceeded the measurement set in the objective.

*Increase the number of PHNs completing COOP with small community not for profit organizations.* The baseline for the number of PHNs completing COOP with small community not for profit organizations was zero. At the end of the project, three PHNs introduced COOP with community programs and two programs initiated the process to complete a COOP using the COOP template. The PHNs that engaged organizations had an already established relationship with the organization. It is likely that having an already established relationship with community organizations facilitated PHNs being able to complete the COOP curriculum with the organization. The importance of established relationships facilitated PHNs easily engaging community programs to develop a COOP. The goal for this objective was to have at least one PHN implementing the COOP tool and curriculum with one organization. During the course of the project, three PHNs completed COOP with an organization.

*Increase the number of small community not for profit organizations with a COOP.* The objective for this outcome was to have at least one small community not for profit organization develop a COOP with PHNs’ assistance. This measurement was not met. No organization developed a completed COOP during the course of the project. However, two organizations expressed interest in developing COOP with PHNs’ assistance. PHNs’ interventions with small community not for profit programs usually occur over a period of time through successive visits and therefore, additional appointments and visits with the PHNs may be necessary for the small community not for profit organizations to complete a COOP.

Small Community Not for Profit’s interest to develop a COOP and work with PHNs to do so is a step towards community resiliency and continuation of essential services in communities.
This is promising for PHNs in that it aligns with the PHNs’ Branch Strategic Plan for emergency preparedness and response to plan to achieve a cost efficient, effective and resilient statewide PHN structure, which shapes and employs an appropriate response based upon community (Public Health Nursing Program, 2012).

**PHN practice and COOP tool implementation barriers.** Time and timing, a predicted factor prior to the pilot project implementation, was identified as a barrier for PHNs’ practice. Time for PHNs to complete a COOP tool with community programs was identified as an overall barrier. Verbal and written comments attributed time to the time of the year where PHN priorities focused mainly on Hawaii Public Schools. The time of the year the project was implemented did not place the project as a priority for PHNs. Hawaii PHNs’ priorities such as the beginning of the public school year, which brings about a large workload for PHN between July and November, may have contributed to a small number of PHNs implementing the COOP tool and curriculum with small community not for profit organizations.

Another barrier identified was lack of interest on the part of the small community not for profit organizations. Community engagement normally occurs over the telephone to share PHNs’ purpose for visit and scheduling of appointments, and therefore, interest to develop COOP may have been minimal from the community organizations. Organizations may not have understood COOP via a telephone. PHNs also reported missed contacts between PHN and small community not for profit programs to schedule an appointment to implement COOP.

**Continuity of Operations Planning Resources**

The COOP tool template and curriculum were available resources during the pilot. However, PHNs reported they would have preferred to learn more about COOP prior to piloting with a small community not for profit organization.
Implications and Recommendations

**Evaluation of COOP project.** Based on the findings, it is recommended that Hawaii PHNs utilize the developed COOP tool and curriculum with small community not for profit organizations. It is also recommended to periodically review the literature for COOP development and to regularly survey Hawaii PHNs about their practice regarding COOP.

Secondly, the recommendation for training Hawaii PHNs starts with training PHNs in the County of Honolulu then expanding to Kauai, Maui, and Hawaii counties. PHNs in the County of Honolulu demonstrated their confidence and competence in implementing COOP with organizations in the community. Along with this recommendation for training is to not train entry level PHNs (Level II). COOP training should be conducted with PHNs that are at a Level III or IV. The Level II PHN may not be adequately prepared to share disaster preparedness in the community.

Lastly, COOP trainings and development activities should be scheduled during a time of year when PHNs are not engaged in large scale, time consuming programs such as the Stop Flu at School program.

**DNP Essentials**

The JHNEBP Model (Newhouse et al., 2007) provided the guidance and process for the project (DNP Essential I). The use of the JHNEBP tools for synthesizing the literature were incorporated into the review of the literature.

The process and outcome measures for this pilot project ensured that the COOP tool was ground in evidence (DNP Essential III) and validated by experts in the field of disaster preparedness and response (DNP Essential III and VI). Also important in this project was ensuring the cost was minimal for both PHN and small community not for profit organizations to
be able to implement the COOP tool and curriculum (DNP Essential II). Through connecting with small not for profit programs in the community to develop a COOP, a whole community approach can begin to mitigate all hazards (DNP Essential V).

By using technology (DNP Essential IV), costs for training PHNs were minimal. Online COOP training for PHNs occurred by using technology to connect PHNs in the different counties and PHN sections. The ability to connect PHNs in the different counties facilitated PHNs participating in the project by being able to provide education for small community not for profit programs about COOP (DNP Essential VII).

DNP student’s leadership skills (DNP Essential VIII) utilized during the pilot project assisted with development, implementation, and evaluation of this project. The DNP student, through the process of this project, is now in a position to mentor other advanced practice nurses who are interested in disaster preparedness planning.

The implications for advanced nursing practice based on the DNP Essential (American Association of Colleges of Nursing, 2006) are located in Table 10.
### Table 10.

**DNP Essentials**

<table>
<thead>
<tr>
<th>DNP essential</th>
<th>Implications</th>
</tr>
</thead>
</table>
| Essential I: Scientific Underpinnings for Practice | - Johns Hopkins Nursing Evidence-Based Practice Model (Newhouse et al., 2007) was used to guide the process for practice change  
  - DNP developed COOP tool based on evidence from literature and validated through experts in the field of disaster preparedness, response, recovery, and mitigation |
| Essential II: Organizational & Systems Leadership for Quality Improvement and Economics | - Developing and designing a simple COOP tool to use with small not for profit community programs  
  - Implementation of a no cost COOP tool  
  - Development and identification of resources to support PHN practice change  
  - Evaluation of process and outcome measures |
| Essential III: Evidence-Based Practice/Translation Science | - In-depth literature review to develop COOP tool  
  - Implementation of a tool for literature critiques  
  - DNP student developed COOP tool based on evidence from literature and validated through experts in the field of disaster  
  - Translating COOP tool for PHN practice  
  - Analyze data for PHN practice  
  - Pilot project evaluation |
| Essential IV: Information Systems/Technology       | - Electronic databases used to conduct literature searches for literature review  
  - Use of computer technology to conduct on-line training for pilot project  
  - Use of the Public Health Reporting System for collecting PHN encounter data |
| Essential V: Health Care Policy and Ethics         | - Use of a whole community approach to disaster preparedness, response, recovery, and mitigation |
| Essential VI: Interprofessional Collaboration      | - Collaboration with government and non-government programs to educate about community preparedness  
  - Collaboration between small not for profit community programs to support COOP efforts to combine resources during and after a disaster |
| Essential VII: Prevention and Population Health    | - Education for PHN and small not for profit community programs about COOP  
  - Identifies areas for improvement for small not for profit community programs in all hazards planning |
| Essential VIII: Advanced Nursing Practice & Education | - Design, implementation, and evaluation of COOP tool  
  - Leadership and mentorship for advanced nurses interested in all hazards preparedness, response, recovery, and mitigation  
  - Educate advanced practice nurses about all hazards planning at the community level |
Plans for Dissemination

A copy of this report will be given to Public Health Nursing Branch’s administration and a presentation will be conducted on the findings. This report is also submitted to the University of Hawai’i at Mānoa Graduate Committee for the Doctor of Nursing Practice. The DNP Student also plans to present the findings at the oral defense to meet the degree requirements for the DNP program.

Data summaries are available to the University of Hawai’i and the Public Health Nursing Branch’s Administration and Emergency Preparedness & Response Steering Committee.

Summary

Planning for disasters is essential for community survival following a catastrophic event. The information provided in the COOP tool assists small community not for profit organizations to be able to plan for a disaster. It is important to the community’s survival that small community not for profit organizations be able to provide essential services during and after a disaster to ensure the public health and safety of the populations. These essential services and functions offered in the community by non-government programs assists with the economic stability of the community while providing much needed services in the community during and after a disaster.

During the pilot project, three PHNs engaged small community not for profit organizations about COOP with expressed interest from two organizations to work with PHNs to develop a COOP for their organization. Evaluation of the project, revealed that training on the COOP template and curriculum for small not for profit organizations should be conducted as a statewide practice change starting with Honolulu County then expanding to the other counties.

This pilot demonstrated PHNs that utilized the COOP tool and training program did increase small community not for profit organization continuity of operations planning. Lessons
learned regarding which level of PHNs work with community organizations for COOP planning and the timing of these activities will serve to strengthen COOP planning across the State of Hawaii.
Appendices

Appendix A - Johns Hopkins Nursing Evidence Based Practice

Evidence Rating Scale

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>I</td>
<td>Experimental randomized controlled trial (RCT) or meta analysis of RCT</td>
</tr>
<tr>
<td>II</td>
<td>Quasi-experimental study</td>
</tr>
<tr>
<td>III</td>
<td>Non-experimental study, qualitative study, or meta-synthesis</td>
</tr>
<tr>
<td>IV</td>
<td>Opinion of nationally recognized experts based on research evidence or expert consensus panel (systematic review, clinical practice guidelines)</td>
</tr>
<tr>
<td>V</td>
<td>Opinion of individual expert based on non-research evidence. Includes case studies, literature review, organizational experience, quality improvement and financial data, clinical expertise, or personal experience</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>QUALITY</th>
<th>DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>A High</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Summative reviews</td>
</tr>
<tr>
<td></td>
<td>Organizational</td>
</tr>
<tr>
<td></td>
<td>Expert Opinion</td>
</tr>
<tr>
<td>B Good</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Summative reviews</td>
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<tr>
<td></td>
<td>Organizational</td>
</tr>
<tr>
<td></td>
<td>Expert Opinion</td>
</tr>
<tr>
<td>C Low quality or major flaws</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Summative reviews</td>
</tr>
<tr>
<td></td>
<td>Organizational</td>
</tr>
<tr>
<td></td>
<td>Expert Opinion</td>
</tr>
</tbody>
</table>

*Note: A study rated an A would be of high quality, whereas a study rated a C would have major flaws that raise serious questions about the believability of the findings and should be automatically eliminated from consideration.*

(Appendix A continuation)

Johns Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal

Johns Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal

Strength of Evidence
Level I (Strong)

Experimental Study (Randomized Controlled Trial or RCT)
- Study participants (subjects) are randomly assigned to either a treatment (TX) or control (non-treatment) group
- May be:
  - Blind: subject does not know which TX subject is receiving
  - Double-blind: neither subject nor investigator knows which TX subject is receiving
  - Non-blind: both subject and investigator know which TX subject is receiving; used when it is felt that the knowledge of treatment is unimportant

Meta-analysis of RCTs
- Quantitatively synthesizes and analyzes results of multiple primary studies addressing a similar research question
- Statistically pools results from independent but combinable studies
- Summary statistic (effect size) is expressed in terms of direction (positive, negative, or zero) and magnitude (high, medium, small)

Level II

Quasi-experimental Study
- Always includes manipulation of an independent variable
- Lacks either random assignment or control group
- Findings must be considered in light of threats to validity (particularly selection)

Level III

Non-experimental Study
- No manipulation of the independent variable
- Can be descriptive, comparative, or relational
- Often uses secondary data
- Findings must be considered in light of threats to validity (particularly selection, lack of severity or co-morbidity adjustment)

Qualitative Study
- Exploratory in nature, such as interviews, observations, or focus groups
- Starting point for studies of questions for which little research currently exists
- Sample sizes are usually small and study results are used to design stronger studies that are more objective and quantifiable

Meta-synthesis
- Research technique that critically analyzes and synthesizes findings from qualitative research
- Identifies key concepts and metaphors and determines their relationships to each other
- Aim is not to produce a summary statistic, but rather to interpret and translate findings

Quality of Evidence (Scientific Evidence)
A High: consistent results, sufficient sample size, adequate control, and definitive conclusions; consistent recommendations based on extensive literature review that includes thoughtful reference to scientific evidence
B Good: reasonably consistent results, sufficient sample size, some control, and fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence
C Low/Major flaw: little evidence with inconsistent results, insufficient sample size, conclusions cannot be drawn

(Appendix A continuation)

### Johns Hopkins Nursing Evidence-Based Practice

#### Non-Research Evidence Appraisal

**Evidence Level:** ______

<table>
<thead>
<tr>
<th>ARTICLE TITLE:</th>
<th>NUMBER:</th>
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<tbody>
<tr>
<td>AUTHOR(S):</td>
<td>DATE:</td>
</tr>
</tbody>
</table>

**JOURNAL:**

- [ ] Systematic Review
- [ ] Clinical Practice Guidelines
- [ ] Organizational (QI, financial data)
- [ ] Expert opinion, case study, literature review

**Does evidence apply to the population targeted by my practice question?**

- [ ] Yes
- [ ] No

**If the answer is No, STOP here (unless there are similar characteristics).**

### Systematic Review

- [ ] Is the question clear?
- [ ] Was a rigorous peer-reviewed process used?
- [ ] Are search strategies specified, and reproducible?
- [ ] Are search strategies appropriate to include all pertinent studies?
- [ ] Are criteria for inclusion and exclusion of studies specified?
- [ ] Are details of included studies (design, methods, analysis) presented?
- [ ] Are methodological limitations disclosed?
- [ ] Are the variables in the studies reviewed similar, so that studies can be combined?

### Clinical Practice Guidelines

- [ ] Were appropriate stakeholders involved in the development of this guideline?
- [ ] Are groups to which guidelines apply and do not apply clearly stated?
- [ ] Have potential biases been eliminated?
- [ ] Were guidelines valid (reproducible search, expert consensus, independent review, current and level of supporting evidence identified for each recommendation)?
- [ ] Are recommendations clear?

### Organizational Experience

- [ ] Was the aim of the project clearly stated?
- [ ] Is the setting similar to setting of interest?
- [ ] Was the method adequately described?
- [ ] Were measures identified?
- [ ] Were results adequately described?
- [ ] Was interpretation clear and appropriate?

### Individual expert opinion, case study, literature review

- [ ] Was evidence based on the opinion of an individual?
- [ ] Is the individual an expert on the topic?
- [ ] Is author's opinion based on scientific evidence?
- [ ] Is the author's opinion clearly stated?
- [ ] Are potential biases acknowledged?

### Pertinent Conclusions and Recommendations

- [ ] Were conclusions based on the evidence presented?
- [ ] Yes
- [ ] No

- [ ] Will the results help me in caring for my patients?
- [ ] Yes
- [ ] No

### Quality of Evidence (scale on back):

**Basic quality rating of the study under review (check one):**

- [ ] High (A)
- [ ] Good (B)
- [ ] Low/Major flaw (C)

(Appendix A continuation)

Johns Hopkins Nursing Evidence-Based Practice
Non-Research Evidence Appraisal

**Strength of Evidence**

**Level I-IV**

**SYSTEMATIC REVIEW**
- Research review that compiles and summarizes evidence from research studies related to a specific clinical question
- Employs comprehensive search strategies and rigorous appraisal methods
- Contains an evaluation of strengths and limitations of studies under review
- If peer-reviewed process such as Cochrane is used, rate at the level of the research evidence included in the review if not a meta-analysis, which is rated at level I. If non-peer reviewed, rate at Level IV

**Level IV**

**CLINICAL PRACTICE GUIDELINES**
- Research and experiential evidence review that systematically develops statements that are meant to guide decision-making for specific clinical circumstances
- Evidence is appraised and synthesized from three basic sources: scientific findings, clinician expertise, and patient preferences

**Level V (Weak)**

**ORGANIZATIONAL**
- Review of quality improvement studies and financial analysis reports
- Evidence is appraised and synthesized from two basic sources: internal reports and external published reports

**EXPERT OPINION, CASE STUDY, LITERATURE REVIEW**
- Opinion of a nationally recognized expert based on non-research evidence (includes case studies, literature review, or personal experience)

**Quality of Evidence (Summative Reviews)**

A **High**: well-defined, reproducible search strategies; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies; and definitive conclusions

B **Good**: reasonably thorough and appropriate search; reasonably consistent results, sufficient numbers of well-designed studies, evaluation of strengths and limitations of included studies, with fairly definitive results

C **Low/Major flaw**: undefined, poorly defined, or limited search strategies; insufficient evidence with inconsistent results; conclusions cannot be drawn

**Quality of Evidence (Expert Opinion)**

A **High**: expertise is clearly evident

B **Good**: expertise appears to be credible

C **Low/Major flaw**: expertise is not discernable or is dubious

Appendix B - Public Health Nurses Organization Chart

OFFICE OF THE DIRECTOR

DEPUTY DIRECTOR OF HEALTH

DISTRICT HEALTH OFFICE HAWAII (PHN)

DISTRICT HEALTH OFFICE MAUI (PHN)

DISTRICT HEALTH OFFICE KAUAI (PHTeam)

Health Resources Administration

ENVIRONMENTAL HEALTH ADMINISTRATION

BEHAVIORAL HEALTH ADMINISTRATION

Communicable Disease & Public Health Nursing Division

Central PHN

East Honolulu PHN

Leeward PHN

West Honolulu PHN

Windward PHN

FHSD  DDD  EMS&IPS  DOCD  TBB  HDP  STDB  PHNB
Appendix C - Training Pretest and Post Test

Public Health Nursing Branch
Continuity of Operations Plan (COOP)
Professional Development Session
Pretest and Post Test

1) The purpose of COOP is to:
   A. Lessen the impact of a disaster/hazardous event
   B. Provide a plan for a program to continue operations following a disaster/hazardous event
   C. Assists a program with identifying key elements to resume operations following a disaster/hazardous event
   D. All of the above

2) One of the components contained in COOP identifies:
   A. Alternate facilities to conduct business
   B. Identifying potential hazards
   C. A and B
   D. None of the above

3) Orders of Succession is:
   A. A plan carried out during normal operations
   B. A back-up plan for filling your business leadership roles
   C. Developed with staffing 4-5 deep
   D. Not needed for COOP

4) Regarding exercising and practicing COOP, a Program should:
   A. Develop an exercise schedule
   B. Identify areas for improvement
   C. Frequently rewrite the COOP
   D. Both A and B

5) Name four of the recommended items for individual and family preparedness.
   A. __________________________
   B. __________________________
   C. __________________________
   D. __________________________
Appendix D - COOP Nursing Practice Questionnaire

Continuity of Operations Planning Tool
Nursing Practice Questionnaire

Have you been trained to administer the PHN developed Continuity of Operations Plan (COOP) Tool? 

_____ No (STOP – do not continue)  

_____ Yes (continue to next question)  When? _______ (month/year)

Since trained to administer the COOP Tool, approximately how many (COOP Tools) have you completed with community programs?  _____ None  _____ 1  _____2  _____3  _____4  _____5

Tell us your feelings about administering the COOP Tool by rating yourself on the following (circle your answers):

<table>
<thead>
<tr>
<th>How confident do you feel in administering the COOP Tool?</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How competent do you feel in administering the COOP Tool?</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
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<td>3</td>
<td>4</td>
<td>5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>How competent do you feel in entering COOP Tool data into the Public Health Reporting System?</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How confident do you feel in entering COOP Tool data into the Public Health Reporting System?</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Are these barriers to PHN using the COOP Tool with Small Not for Profit Community Programs?

<table>
<thead>
<tr>
<th>Length of time needed to complete COOP tool</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
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<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length of COOP tool is too long</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Small not for profit community program does not understand COOP</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
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<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program not interested in learning about COOP</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</table>
(Appendix D continuation)

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHN has difficulty engaging small not for profit community program</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>PHN not comfortable sharing COOP with community program</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>PHN does not see the importance of COOP for small not for profit community programs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>PHN does not have enough time to complete COOP with community programs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>PHN does not have time to follow up with small not for profit community program to complete COOP</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Do you feel the COOP tool accurately reflected the Program’s ability to understand all hazards preparedness?

_____all the time    _____most of the time    _____some of the time    _____never

Since learning about the COOP tool, how has your practice changed?

______________________________________________________________________________

______________________________________________________________________________

If your nursing practice has not changed, what specific interventions do you use to address all hazards preparedness with community programs?

______________________________________________________________________________

______________________________________________________________________________

What would you like to learn about Continuity of Operations Planning?

______________________________________________________________________________

______________________________________________________________________________
Appendix E - Implementation Facilitators and Barriers

Continuity of Operations Planning Tool Facilitators and Barriers to Implementation

Since learning about Continuity of Operations Planning, please tell me about the facilitators/barriers encountered when sharing COOP with small not for profit community programs.

Facilitators

_____ Having COOP materials available (COOP Tool and/or COOP for small community programs presentation)

_____ COOP education for PHN

_____ Knowledge of my own Department’s COOP

_____ PHN has an established relationship with small community program(s)

_____ Knowledge of COOP and components

_____ COOP tool written in language small community programs can understand

_____ Other __________________________________________________________

Barriers

_____ Program not interested in learning about COOP

_____ Takes more than two visits to complete COOP

_____ Length of COOP tool is too long

_____ Program will complete COOP on own

_____ PHN has difficulty engaging community programs

_____ PHN not comfortable sharing COOP with community program

_____ PHN does not see the importance of COOP with small not for profit community programs

_____ PHN does not have enough time to complete COOP with community program

_____ PHN does not have time to follow up with small not for profit community program to complete COOP

_____ Other __________________________________________________________
Appendix F - COOP Community Program Feedback

Continuity of Operations Planning with
Hawaii Department of Health Public Health Nurses
Program Feedback

Completed forms can be faxed to ______________ at __________. Please provide feedback about your Continuity of Operations Planning (COOP) experience with Hawaii Department of Health Public Health Nurses (PHNs).

<table>
<thead>
<tr>
<th>PHNs were knowledgeable about COOP</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PHNs were comfortable in explaining COOP to me</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
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<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PHNs were confident in explaining COOP to me</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
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</tbody>
</table>

Please provide feedback about the COOP tool if your program completed the COOP tool presented by Hawaii Department of Health Public Health Nurses.

<table>
<thead>
<tr>
<th>The time needed to complete the COOP tool was too long.</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>The length of COOP tool is too long.</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
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</table>

<table>
<thead>
<tr>
<th>The COOP Tool directions were easy to follow.</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
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<table>
<thead>
<tr>
<th>The COOP Tool sections are applicable to my Program.</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
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</tbody>
</table>

Please provide feedback about Continuity of Operations Planning (COOP) for your program.

<table>
<thead>
<tr>
<th>My program will likely work with PHNs to learn more about COOP.</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>It is important for me and/or my program to develop a COOP.</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>I and/or my Program will likely develop a COOP.</th>
<th>Not at all</th>
<th>Slightly</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Extremely</th>
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</tbody>
</table>

Any comments/suggestions:
## Appendix G - Logic Model

<table>
<thead>
<tr>
<th>Input</th>
<th>Activities</th>
<th>Outputs</th>
<th>Short term outcomes (4-6 months)</th>
<th>Medium Term Outcomes</th>
<th>Long Term Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skype for Business</td>
<td>Literature Searches</td>
<td>% of PHNs trained on COOP</td>
<td>Increase # of PHN knowledgeable about COOP</td>
<td>To be determined</td>
<td></td>
</tr>
<tr>
<td>PHNB SharePoint</td>
<td>Develop COOP tool</td>
<td># of PHNs trained on COOP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Articles</td>
<td>Conduct COOP education</td>
<td># of PHN with increased knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP &amp; R Steering Committee</td>
<td>Develop COOP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evaluate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Educate not for profit organization on COOP</td>
<td>% of PHNs trained reporting confidence</td>
<td>Increase # of PHN confident in building capacity in not for profit organizations in developing COOP</td>
<td>To be determined</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete COOP with community organizations</td>
<td>% of PHNs meeting with not for profit</td>
<td>Increase # of PHN competent in building capacity in not for profit organizations in developing COOP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evaluate</td>
<td>report confidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP &amp; R Steering Committee</td>
<td></td>
<td>% of PHNs trained reporting competent</td>
<td>Increase # of PHN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of PHNs meeting with not for profit</td>
<td>competent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not for profit organizations</td>
<td></td>
<td>report competent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of PHNs completing COOP with community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COOP Tool</td>
<td>programs/organizations</td>
<td># of PHNs completing COOP with not</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COOP Evaluation</td>
<td></td>
<td>for profit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td># of completed COOP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>COOP Evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identification of facilitators and barriers to completing COOP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Improved Process</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dear Ms. Fernandez,

Thank you for the clarification and your submission to the Human Studies Program. Your application for Exempt Status has been reviewed and the activities described therein do not fall under the purview of the Human Studies Program.

This email serves as your record of HSP review.

If anything in your project should change, or you have any questions, please don't hesitate to contact us at uhirb@hawaii.edu.

Sincerely,
Heidianne Ho
Appendix I - COOP Tool

Continuity of Operations Plan
For Small Community Not for Profit/Business

Preface

The events of September 11, 2001 left lasting images of the results of terror attacks. There was loss of life, loss of communication, loss of air traffic, loss of electricity, and countless other losses. The terror attacks interrupted our way of life and solutions were developed as the events unfolded. A Continuity of Operations Plan (COOP) is a predetermined solution to events like terror attacks, hurricanes, or other catastrophes interrupting our way of life. It is in time like these that a COOP is needed.

Source: https://images.search.yahoo.com/images/view;_ylt=AwrTcXU5FEbVDYcAsWAunlIQ_;_ylu=X3oDMTItqyam9mc3VlBNJ1YwNzc9RzBGdW1nBG9pZAM2M2Y3NjM4ODU3MnQZGM2ZGQ4ZD81dWQZMzOGMyMgRncG9zAzEEeXQDYmluZw--?origin=&back=https%3A%2F%2Fimages.search.yahoo.com%2Fyhs%2Fsearch%3Fp%3D9%252F11%2Bimages%26fr%3Dyhs-web%26hsimp%3Dyhs

A Continuity of Operations Plan identifies key elements for ensuring businesses are able to resume operations, though limited following any hazard (earthquake, hurricane, terror attack, wildfires, etc.). A well planned and practiced COOP may help to lessen impact of a hazardous event and provide a plan for businesses to continue operations directly affecting public health and everyday life in the community. The information for COOP presented here is meant to start dialogue to taking the steps necessary for developing a continuity of operations plan. The information here is not all-inclusive and discussion and consideration is given to developing a Continuity of Operations Plan that is pertinent for your business.

The planning process is fluid. It is difficult to determine when things sequentially occur. However, it is essential to know that there are core elements necessary to develop a COOP.
Convene a Continuity Planning Team

The Continuity Planning Team is the developers of the COOP. Consider who is included on the Continuity Planning Team. Those selected for the Continuity Planning Team are knowledgeable about the essential functions of the business and what is needed to continue operations. The roles and responsibilities for the Continuity Planning Team:

1. Developing the continuity plans; how to make the business operational again
2. Determining the essential functions for the business (not all functions will be carried out)
3. Identifying resources for continuity of operations
4. Developing decision-making processes and procedures, establishing a chain of command and carrying out the decision making process.
5. Decision making for control and management of information; internally (partners and shareholders) and externally (public)
6. Establishing timelines for completion of continuity of operations plans; decision making for end of COOP and resuming of normal operations.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position with business</th>
<th>Contact (Phone, Ext. / Email)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</table>

Source: www.grook.net
Hazard identification is an essential component in assessing how to start and how long a COOP maybe required. Consider the types of natural and/or man-made hazards that have the potential to impact your business. Types of hazards that may impact your business may be external (earthquake, tsunami, flood, influenza pandemic) or internal (fire, burglary, power outage). Determination of the types of hazards that will most likely impact your business starts the process to mitigating those impacts during continuity planning. Example of some impacts maybe road closure due to flooding. Are there alternate routes to our facility/office? There are two ways to categorize hazards, internal or external. The impact the hazard has on the business will assist in determining if a response is needed.

<table>
<thead>
<tr>
<th>INTERNAL HAZARD</th>
<th>Impact on Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power outage</td>
<td>No access to client record, spoiled food</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXTERNAL HAZARD</th>
<th>Impact on Business</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
Critical Function and Services

Identify critical function and services that must not be disrupted or remain intact for your business and the person who is in charge. Essentially these are the services and functions that are critical for business survival. The critical functions and services are high priority. Consideration is given to functions and services that are vital to public health and maintains safety of community residents. Develop an uncomplicated plan to restore the functions and/or services based on the business’ priorities. Keep the plan simple. Businesses should document where the plan is located if it is not part of COOP.

Source: http://msaincorp.com/continuity-of-operations

<table>
<thead>
<tr>
<th>Function/Service</th>
<th>Person in Charge</th>
<th>Plan to Restore Function / Service</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
Orders of Succession

Orders of Succession is basically the back-up plan for filling your business leadership roles when leadership is not available, is incapacitated, or are simply unable to perform their function and roles. If possible, develop orders of succession that are 2-3 deep. By identifying alternates, the decision-making will be uninterrupted.

<table>
<thead>
<tr>
<th>Role/Function</th>
<th>Primary Person</th>
<th>1st Alternate</th>
<th>2nd Alternate</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
(Appendix I continuation)

**Continuing Communications**

Continuing communications with other businesses, suppliers, vendors, clientele, and the public informs them that your business is operational though it may be limited. More importantly, continuing communications with staff assures timely updates and information needed to report to work.

<table>
<thead>
<tr>
<th>Staff Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suppliers, vendors, other business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

Alternate Facilities

If the main site of business operations were not available to conduct business, what other sites would be appropriate to continue essential functions? What space requirements are needed to conduct business and continue essential functions? Informing staff of the location, who to contact and how, is key information in continuing essential functions at an alternate facility. Other information that is pertinent to your business to continue operations at an alternate location should be added.

Source: http://www.saveetha.ac.in/index.php/academic-life/curriculum.html

<table>
<thead>
<tr>
<th></th>
<th>Alternate location 1</th>
<th>Alternate location 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City, State, Zip Code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone Number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior agreement made?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which staff to report to location?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(Appendix I continuation)

**Practicing**

The information contained in the continuity of operations plan is tested and practiced to evaluate the written plan and how it is operationalized. By practicing and testing COOP, your business has the opportunity to see if the plan works and areas for improvements are identified. Regularly practicing and testing COOP is a way to provide staff with familiarity and consistency should an event occur. Practicing also reveals areas for professional development of staff to carry out their roles in this plan. Develop a schedule to test the plan and practice the roles that are assigned to your business staff.


<table>
<thead>
<tr>
<th>Date practice/tested</th>
<th>What was practice/tested</th>
</tr>
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Returning to Normal Operations

Returning to normal operations is a must for your business survival and for continuing needed public health services in your community. To return to normal operations, staff are notified that the hazard is no longer occurring. Leadership directs the return to normal operations. Some points to consider when returning to normal operations:

- Who will lead the return to normal operations?
- Is our business facility safe?
- Can our clients and customers safely get to and from our business?
- Is communication re-established with staff, consumers, vendors, suppliers, etc.?
- Is equipment functional and ready for use?

Source: http://liveworkstudio.com/themes/customer-experience/
Individual Staff and Family Preparedness

Staff that have developed a family emergency plan and have assembled an emergency kit with needed disaster supplies are more likely to report to work following a disaster or emergency. Encourage essential personnel to develop an individual and/or family emergency plan along with a take and go emergency kit by providing staff with resources and information to do so. It is also important for staff and families to stay informed about the current situation and to stay healthy. Staying healthy can help to prepare people to manage the stress associated with an emergency or disaster. Recommended items for an emergency kit are:

- drinking water
- personal hygiene items (toothbrush, toothpaste, soap, shampoo, etc.)
- change of clothing
- non-perishable food/snacks
- flashlight and batteries
- portable radio
- blanket
- first aid kit
- prescription medication
- personal items (contact solution, glasses, crossword puzzles, mobile phone charger)
- important documents (birth certificates, driver’s license, state identification, medical insurance cards, homeowner’s insurance, etc.)

Continuity of Operations Plan for Small Community Programs

Hawaii Department of Health
Public Health Nurses

What is a Continuity of Operations Plan?
Slide 3

Convene a continuity team

- Roles and responsibilities
- Develop continuity plans
- Determine the business’ essential function(s)
- Identify resources for continuity operations
- Develop decision making process and procedure
- Decide on meeting frequency
- Establish timelines

Slide 4

Identify potential hazards

- Internal
  - Fire
  - Burglary
  - Power outage
- External
  - Earthquake
  - Tsunami
  - Flood
  - Influenza Pandemic
Slide 5

Critical function and services

- What functions are essential for public health?
- What services are essential for public health?
- Which functions/services are high priority?
- Develop a plan and keep it simple

Slide 6

Orders of succession

- Back up for filling business’ leadership roles
- Develop a plan 2-3 persons deep
(Appendix I continuation)

Slide 7

- How does business leadership continue communications with staff (essential and non-essential)?
- How does business leadership continue communications with suppliers, vendors, and clientele?
- What messages should be conveyed?

Continuing communications

Slide 8

- What other sites are appropriate to continue the business’ essential functions and roles?
- What type and how large/small does the space have to be to continue essential functions and roles?
- Who needs to be contacted to move the business’ operations to the alternate facility?

Alternate facilities
Slide 9

- Evaluate the written continuity of operations plan
- Does the continuity of operations plan work?
- Can the continuity of operations plan be improved?

Practice/Exercise

Slide 10

- Directed by Leadership
- Who will lead the return to normal operations?
- Is our business facility safe?
- Can our clients and customers safely get to and from our business?
- Is communications re-established with staff, consumers, vendors, suppliers, etc.?
- Is equipment functional and ready for use?

Returning to normal business
(Appendix I continuation)

Slide 11

- Develop a plan
- Make a kit
- Stay informed
- Stay healthy

Individual staff and family preparedness

Slide 12

Questions
References


