

Building Capacity for Logic Models and Evaluation Planning Using Canoe-building Concepts

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Abstract

Non-communicable diseases (NCDs) are the leading causes of death in the United States Affiliated Pacific Islands (USAPIs); US Centers for Disease Control and Prevention funds programs for prevention and control of diabetes, tobacco use, and related chronic disease conditions. To build USAPI programs' capacity in evaluation and surveillance, we held in-person and virtual trainings on evaluation planning and logic models that were tailored with traditional canoe-building themes to be relatable and memorable. Evaluation results suggest the efforts were effective at translating concepts. Additional tools and technical assistance reinforced concepts and resulted in quality evaluation plans. Culturally tailored evaluation tools can be useful and should be developed with population representatives.

Issue

The United States Affiliated Pacific Islands (USAPIs) consist of six island jurisdictions: American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Republic of the Marshall Islands, and Republic of Palau. These 6 jurisdictions are part of a myriad of more than 2,100 coral atolls and volcanic islands spread out over millions of square miles of ocean and crossing 5 time zones, and with varying governing structures.¹ The USAPIs have some of the highest burden of obesity and diabetes in the world, with prevalence of obesity and diabetes as high as 93% and 47% respectively in some island jurisdictions.² Average adult smoking prevalence is also high.^{1,2} In 2010, the Pacific Island Health Officers Association Board declared a state of emergency for a non-communicable disease epidemic.³

The US Centers for Disease Control and Prevention (CDC) funds a cooperative agreement to support prevention and control of diabetes, tobacco use, and related modifiable chronic disease risk factors in Pacific and Caribbean jurisdictions.¹ Public health efforts in diabetes and tobacco prevention and control are critical to promoting overarching national goals to (1) increase the length and quality of life, and (2) eliminate health disparities by addressing social determinants of health.⁴

Similar to the gap in surveillance data and epidemiological capacity,⁵ USAPI programs have indicated needing program evaluation training, according to CDC program consultants. In past cooperative agreements, evaluation efforts gener-

ally entailed monitoring activities such as submitting meeting agendas and minutes, counting numbers of attendees at coalition meetings, trainings held, or health materials distributed, instead of more robust process and outcome evaluation. Logic models were introduced but not successfully linked to outcome evaluation. Minimal access to advanced evaluation training and infrastructure barriers that result in difficulties accessing Internet- or technology-based training have made the need for learning basic evaluation concepts more salient. Moreover, culturally tailored resources for USAPIs can build capacity to conduct important programmatic functions in chronic disease prevention programs.⁶

Description

The purpose was to develop culturally relevant brief training/tools on logic models and evaluation planning for a week-long kick-off meeting in Honolulu, Hawai'i in May 2015. This meeting brought together program representatives from all USAPIs, Puerto Rico, US Virgin Islands, regional partners, and CDC staff, and integrated CDC and grantee presentations with training sessions. Program evaluation was one training topic among a wealth of content, and our evaluation of this session shaped evaluation technical assistance efforts after the kick-off meeting.

CDC's Framework for Evaluation in Public Health emphasizes logic models in evaluation planning.⁷ Logic models are visual depictions that summarize relationships among program inputs, activities and outcomes; this clarity can help with both strategic planning and program evaluation. Training objectives were to:

- Demonstrate the utility of developing logic models with a stakeholder group as part of program planning;
- Provide in-person technical assistance on logic models, with input from CDC staff;
- Describe steps of evaluation planning and components of a written plan; and
- Provide culturally relevant tools to assist in developing an evaluation plan that aligns with the CDC Evaluation Framework.

Methods

Development of Canoe-building Concepts for Logic Models and Evaluation Planning

Monitoring and Evaluation Subcommittee members (representing 2 funded programs, 6 representatives from 4 CDC programs, and the regional epidemiologist funded by CDC) planning the evaluation content of the meeting discussed the importance of beginning with fundamental concepts of evaluation planning and logic models. Iconic events (eg, wedding planning) are often used to illustrate the linkages between inputs, activities, and outcomes in US introductory logic model trainings. Island representatives planning the meeting suggested that such concepts would not resonate with USAPI populations; the Regional Epidemiologist (HLC) suggested a canoe building metaphor because of perceived past success in a Palau workshop conducted by a sister federal agency (ie, Substance Abuse and Mental Health Services Agency).

A search for canoe building or other culturally specific metaphors in the Pacific found little in peer reviewed literature.⁸ To develop these concepts, the lead trainer (NMK) studied the historical culture and importance of canoe building to Pacific island cultures.^{9,10} The goal was to weave concepts throughout both presentations and tools. The lead trainer drafted a logic model and shared it with Evaluation Subcommittee members, revising based on feedback (See Figure 1).

Training Delivery

The first half hour-long training session on Day 4 discussed the utility of logic models as program development and evaluation tools. The presentation compared canoe design (eg, hull type, sail, and outrigger) to a public health program, in that design varies based on what one hopes to accomplish (eg, voyaging, fishing, or warring). We used a scenario of the community being funded for one canoe, and participants had to decide on a design and then evaluate the canoe building “program.” Discussing critical factors in traditional canoe building, the presenter asked for input for each logic model element before displaying that portion of the logic model. For example, inputs were described as the human, natural, financial, and relationship/partner resources. Participants described examples of each element prior to being shown the examples the presenter had developed. At the end, the full logic model was displayed and we discussed the utility of the example and how these concepts could be used with stakeholders to develop or adapt their own program logic models. Following the session, a 45 minute breakout session was held so participants could work on their program plan or their logic model, with CDC staff available for input.

The second hour-long training on evaluation planning on Day 4 incorporated canoe building concepts into the six step-CDC Evaluation Framework, which are; engaging stakeholders; describing the program; focusing the evaluation design; gathering

credible evidence; justifying conclusions; and disseminating and sharing lessons learned.⁷ For the 1.5 hour breakout session following the presentation, we disseminated a planning sketchpad from *Developing an Effective Evaluation Plan*, (which provides information and tools for evaluation planning using the CDC framework), the descriptions of which were tailored using canoe-building concepts (Please contact the authors for a copy of the Evaluation Sketchpad at nik4@cdc.gov).¹¹ For instance, example stakeholders were elders, fishermen, gatherers, builders, travelers and funders. Groups discussed how their interest in or use of evaluation findings may vary. Participants were sent home with these presentation and sketchpad resources so they could refer back to them and use them in planning exercises if they wished.

Several months after in-person training, brief virtual training sessions during quarterly group calls reinforced basic evaluation concepts and requirements of the cooperative agreement. The team developed and disseminated an evaluation plan template, including example process and outcome evaluation questions relevant to their work (rather than the illustrative canoe-building concepts). Evaluation plans developed by the programs were reviewed for as many iterations as necessary to ensure a high quality, feasible plan; this process ranged from 2 months to about 8 months. Plans were reviewed by two evaluators to standardize guidance.

Evaluation of the In-person Trainings

All in-person training sessions were evaluated using paper forms and using five-point Likert scale items to assess whether objectives were met; presenter knowledge; helpfulness and utility of material covered. Open-ended questions asked about improvements for training and opinions on the best part of each session. Results were entered into Survey Monkey by the evaluation team for ease of analysis. Descriptive statistics (percentages) and arithmetic means of responses on Likert-type scales (out of 5) were used to summarize quantitative data. Qualitative responses were recorded verbatim, though corrected for obvious grammatical or spelling errors. Response rates were around 50%, though an exact rate cannot be calculated because participants were free to come and go during the sessions and exact numbers of attendees for each were not counted.

Results

There were 47 awardees from all 6 funded USAPI programs in attendance at the May 2015 training. Evaluation results of the logic model training and breakout are shown in Table 1. The session was highly rated with 96% of respondents agreeing that the material would be useful in their work. Qualitative findings suggest respondents appreciated the canoe-based example. There were no suggestions for improvement, and 6 of 8 respondents expressed the best part of the session was the canoe, island-based example logic model.

Evaluation results of the evaluation planning training and breakout are shown in Table 2. The session was highly rated, with 90% of respondents agreeing that materials would be useful in their work. Qualitative findings suggest the discussion and planning tools (ie, sketchpad with canoe based tips) facilitated learning and were easy to understand and use. Suggestions for improvement primarily related to breakout facilitation. Anecdotally, comments during the breakouts included, “Now I finally understand what an evaluation question is,” and “I can see how involving different stakeholders can change what the evaluation will focus on.”

All jurisdictions had representation on the webinar training on evaluation planning held several months following the in-person training that reinforced these concepts and explained the evaluation plan template and requirements. Evaluation plans were received from all jurisdictions, 6 of 8 using the provided template, while 2 used their own structure but still included all the required elements from the template. After providing systematic feedback to suggest improvements to the structure and content of plans, including specific evaluation questions, revised plans were submitted that demonstrated increased understanding of evaluation concepts. All plans now include process and outcome evaluation rather than surface level process evaluation counting outputs.

Conclusions

Building capacity in evaluation planning can benefit from training tools integrating concepts that resonate or “stick,” which include being simple, unexpected, and using concrete images.¹² Building on local culture and existing knowledge can facilitate understanding and using culturally appropriate frameworks makes concepts more “sticky.” While indigenous knowledge is not always meant to be accessible to all,⁸ using metaphors that resonate with communities to teach new and interrelated concepts can be very useful.¹³ Though our response rate is unknown, those USAPI participants that completed the evaluation forms for the sessions expressed gratitude for tools they could relate to, and that helped them understand logic models and evaluation questions. These efforts were a good starting point to engage awardees without formal evaluation training. More training, tools, evaluation planning templates, and technical assistance were needed to reinforce these concepts, which resulted in submission of evaluation plans that covered all steps of the CDC evaluation framework.⁷ Good quality plans and implementation of those plans, aided by continual technical assistance and good surveillance will help improve the programs working to prevent and control high rates of chronic diseases in USAPIs.^{5,14} So while it’s unknown whether the culturally tailored tools, the intensive technical assistance, or the combination was most useful, lessons can be learned from the experience of tailoring the tools.

Lessons Learned

Particularly as outsiders to the USAPI culture, it was important for the trainers to get feedback early and often with tools and models, from both those working with these populations and USAPI representatives. It was important not to appropriate indigenous cultural knowledge, but rather, learn and adapt tools in ways that reflected it.¹⁵ To some, that line may be too fine; in fact, there was one individual (who was an expert canoe builder from a Pacific Island jurisdiction) who, when told canoe-building concepts would be discussed in the training, expressed disfavor because this person thought we would be trying to teach them about their culture. However, during informal discussions, representatives of various islands who were aware of the content reassured the trainers that the tools would be helpful to the attendees. Additionally, during the presentation, the trainer stressed that historical traditions were used to develop relatable concepts, and the metaphor may not necessarily be applicable in their present day setting. It may also be important to recognize the gendered aspects of canoe-building, and that in some Pacific cultures, genders may even have different metaphorical uses of canoes.¹⁶ Moreover while males were the primary canoe builders, women were involved in building the sails and supporting communities during voyages.¹⁰ Overall, according to evaluation qualitative responses, participants appreciated the efforts put forth to tailor concepts to Pacific culture, and found the material highly useful and relevant (Tables 1 and 2).

Another lesson learned when developing tools based on cultural traditions is to not leave out important cultural components. For example, during the training, participants informed the trainer that the ceremonial canoe blessing was missing. Though that part of the process come up when studying canoe-building traditions, it had not been deemed relevant for our logic model. Future efforts to engage communities in culturally appropriate models as training tools should include all cultural aspects, regardless of perceived relevance to trainers. Actively engaging with a variety of stakeholders during development can ensure the appropriateness of these elements.

Conflict of Interest

None of the authors identify a conflict of interest.

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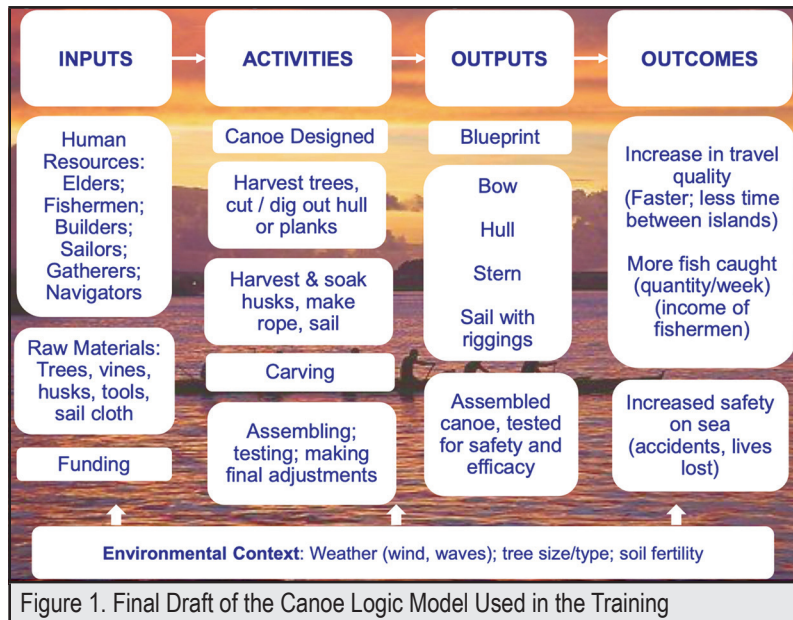


Figure 1. Final Draft of the Canoe Logic Model Used in the Training

| Table 1. Quantitative Ratings and Qualitative Responses of the Session, "What is a Logic Model and How is it Related to Your Program Plan?" | | | | | | | |
|--|-------------------------|----------------|-----------------|-------------|----------------------|---------|--------------------|
| Quantitative Ratings | | | | | | | |
| Description | Strongly Disagree % (n) | Disagree % (n) | Undecided % (n) | Agree % (n) | Strongly Agree % (n) | Total N | Average (out of 5) |
| The objective for this session was met. | 0% (0) | 0% (0) | 0% (0) | 38% (10) | 62% (16) | 26 | 4.6 |
| Session content was organized and easy to follow. | 0% (0) | 0% (0) | 0% (0) | 35% (9) | 65% (17) | 26 | 4.7 |
| The presenters were knowledgeable about the topic. | 0% (0) | 0% (0) | 0% (0) | 35% (9) | 65% (17) | 26 | 4.7 |
| The time allotted for the session was sufficient, including time for questions. | 0% (0) | 0% (0) | 4% (1) | 40% (10) | 56% (14) | 25 | 4.5 |
| The breakout session was helpful in providing an opportunity to apply principles and reinforce ideas. | 0% (0) | 0% (0) | 0% (0) | 38% (9) | 63% (15) | 24 | 4.6 |
| Material covered in this session will be useful in my work. | 0% (0) | 0% (0) | 4% (1) | 40% (10) | 56% (14) | 25 | 4.5 |
| Qualitative Responses | | | | | | | |
| Question: What aspects of the session could be improved? Please include comments on material not covered that you hoped would be, if applicable. Responses: n=5 • All responses were themed "Not applicable" or "none" | | | | | | | |
| Question: What did you find to be most valuable in this session? Verbatim Responses: n=8 • Thank you Nicole for your "Island" example • Well-presented canoe example • Canoe building sample on logic model • Canoe building model for was helpful for the model • Presentation was easily understood because of using a simple building a canoe to prepare a logic model. Most of us know the building a canoe process which made it easier for us to connect. • All are valuable • Increase and encourage use of logic models and ties objectives to activities • Most useful | | | | | | | |

Table 2. Quantitative Ratings and Qualitative Responses of the Session, “Developing an Evaluation Plan: Resources and Tools in Action with Breakout Session”

| Quantitative Ratings | | | | | | | |
|---|-------------------------|----------------|-----------------|-------------|----------------------|---------|--------------------|
| Description | Strongly Disagree % (n) | Disagree % (n) | Undecided % (n) | Agree % (n) | Strongly Agree % (n) | Total N | Average (out of 5) |
| The objective for this session was met. | 0% (0) | 0% (0) | 0% (0) | 37% (8) | 64% (14) | 22 | 4.6 |
| Session content was organized and easy to follow. | 0% (0) | 5% (1) | 0% (0) | 32% (7) | 64% (14) | 22 | 4.6 |
| The presenters were knowledgeable about the topic. | 0% (0) | 5% (1) | 0% (0) | 23% (5) | 73% (16) | 22 | 4.6 |
| The time allotted for the session was sufficient, including time for questions. | 0% (0) | 10% (2) | 5% (1) | 38% (8) | 48% (10) | 21 | 4.2 |
| The breakout session was helpful in providing an opportunity to apply principles and reinforce ideas. | 0% (0) | 0% (0) | 20% (4) | 40% (8) | 40% (8) | 20 | 4.2 |
| Material covered in this session will be useful in my work. | 0% (0) | 0% (0) | 10% (2) | 33% (7) | 57% (12) | 21 | 4.5 |
| Qualitative Responses | | | | | | | |
| <p>Question: What aspects of the session could be improved? Please include comments on material not covered that you hoped would be, if applicable.</p> <p>Verbatim Responses: n=7 (1 response was “none”)</p> <ul style="list-style-type: none"> • Breakout was a bit confusing and the guidance an example from Puerto Rico or Guam • Smaller room to promote more interaction and needed more time for the breakout • The presentation was good but the presenter should put more life into it • We had more than one facilitator spoke at once and with different guides [in the breakout], thus I could not follow and end up confused • Having work plan in hand would have been helpful • Work group discussion is more structured and jurisdiction need driven | | | | | | | |
| <p>Question: What did you find to be most valuable in this session?</p> <p>Verbatim Responses: n=13</p> <ul style="list-style-type: none"> • Evaluation content was excellent • The types of evaluation, what’s in an evaluation plan, and the development of it • Presentation • Breakout discussion with work plan document was very helpful • Materials are very user friendly, easy for us to understand and work with. Breakout facilitator was very helpful and guided us. • Breakout helped understand the formation of evaluation taskforce/stakeholders of how to fill in the table • Evaluation discussion • Excellent walk through evaluation planning tool • The [canoe] tips on the evaluation template. If only we could have the same facilitator during this breakout session • Template sheets useful • The introduction of the evaluation planning tool • All good excellent sessions | | | | | | | |

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