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# Evaluation of a Competency-Based Health Policy Training Program

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## UNMC CENTER FOR HEALTH POLICY

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SUMMARY

- An academic and practice partnership was formed to create and implement a competency-based training program for local health departments in health policy. We evaluated if the training program improved the policy knowledge and competency of participants.
- Participants exhibited significant increases for self-assessed policy competency, including substantial improvements in “Critique the feasibility and expected outcomes of potential policy options”, “Identify and assess the strengths and motivations of key stakeholders and potential resistors”, and “Recommend a specific policy change”.
- The policy competency instrument developed in this report could be used to measure policy knowledge and competency in future training implementations.

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## BACKGROUND

There is growing consensus that progress on disease prevention and health promotion goals is more likely to be achieved and sustained if there are appropriate changes in the policies, systems, and environments that shape communities, particularly as outlined in the former CDC Director Thomas Frieden's Health Impact Pyramid.[1-4] One possible reason for the limited use of evidence based policy as a population health tool may be the lack of policy knowledge and competency among health professionals as suggested by recent workforce assessments.[5-9] There is a global effort to increase capacity in health policy and systems competency that is working to identify gaps and opportunities in training.[10]

Training health professionals to develop, implement, and evaluate policy has been suggested to increase use of evidence-based policy and sustain population health.[11-12] A study of public health professionals assessed the competencies and training needs of professionals involved with chronic health management programs and found that participants agreed that learning policy development was important.[5] This study also highlighted the demand for public health professionals to have policy competence to manage chronic disease interventions.[4] An evaluation of a policy training in Washington State determined that participants could articulate specific changes they would make in their work because of the training.[6] The evaluation also found long-term improvements in participants perceived self-efficacy to convince partners, such as school board members, to prioritize policy change activities. A recently completed evaluation of a competency-based training program in Kansas demonstrated improvements in public health knowledge, competency, and impact.[13]

In response to the need to improve policy competency of the population health workforce and evidence that there was a need for policy training in Nebraska,[8] a partnership was formed with the state health department to develop local and state capacity in public health policy. The outcome of this partnership was a CDC and state government funded training initiative called the Nebraska Health Policy Academy (the Academy).[14] The Academy had the goal of targeting public health practitioners in state and local government and their essential partners, to promote health policy and law as a tool to promote and protect the community's health and well-being. This initiative was based on adult learning theory and culminated in the development of the Health Policy Curriculum Framework intended to simulate the policy process and link public health practice to policy. The framework was adapted from competencies published by the Council on Linkages and competencies developed in other policy literature. Our training program was based on 18 competencies divided by 6 stages; the stages correspond to essential questions posed during the policy development process which include Who is involved and how? What is the nature of the issue? What will be done? How to get the policy authorized? How to put the policy into practice? Did the policy make a difference?.[14] The competencies align with the stages and we developed curriculum to address meeting the competencies.

Teams of health officials and advocates were recruited from local communities to participate in the Academy over a 9-month period. The pedagogical approach included a combination of on-site, live training sessions and online, synchronous and

asynchronous methods including webinars and discussion boards. Teams identified a policy project to solve a health issue in their community and the assignments throughout the program applied lessons that culminated in a final policy project that could be implemented in the community. Teams were given technical assistance and feedback on their projects by policy experts throughout the training program.[14]

The goal of this report is to evaluate whether this continuing education training program improved the policy competency of the participants. We present evaluation measures for participant knowledge and competency before and after completing the Academy, and conclude with recommendations for future program design and sustainability.

## METHODS

Participants ranged from health officials in local health departments, clinicians, and elected officials. For the 2013 cohort, 22 participants started the program and 21 participants completed the program representing a 95% completion rate. For the 2014 cohort, 18 participants started the program and 15 participants completed the program representing a 83% completion rate. We report on 34 participants with complete data from the 2013-14 Academy cohorts.

We gauged participant feedback of Academy activities including, onsite events (e.g.; kickoff event, mid-term event, and final symposium), webinars and asynchronous modules, speakers, staff, and the schedule. We asked the following question: “The information provided was relevant and will be useful in my work.” The full extent of participant feedback data, which is mostly qualitative, can be provided upon request.

Learning outcome data were collected from pre/post-test assessments of policy knowledge and self-assessed competency. We created a 10-item assessment of policy knowledge and administered this instrument before beginning the program and at the end of the program with a potential range of scores from 0-100%. The test items included: 1.) Which of the following is an example of a way an organization could undertake policy, systems, or environmental change? 2.) Which of the following interventions would have the largest impact on reducing smoking in a community? 3.) Which of the following will be the least effective method to reduce obesity levels in a community? 4.) "Community capacity" refers to: the ability of community members to bring about change and improvement over time and across different issues. 5.) Which of the following is NOT among the most common barriers to engaging others in coalitions or partnerships? 6.) True or False: All coalitions must have a formal structure with a name, mission statement, and rotating leadership. 7.) True or False: Consensus in a collaboration means that all parties must be supporting the effort for the same reasons. 8.) The most effective collaborations include: all of the above. 9.) The separation point is: when a member of the coalition's interests and priorities no longer align with the effort and they step back. 10.) Which of the following is a usual type of evidence that has the most impact for legislators when weighing important policy decisions? Tests were scored for correct answers and the results for individual items were analyzed using the Fisher’s exact test because the cell sizes were expected to be less than five. The overall test score was calculated and the pre and post test score was compared using a paired t-test.

The self-assessment of competency was based on 18 competencies.[11] We asked participants to rate their perceived level of competency before and after completing the program for each item on a five-point Likert scale: (1) none/very weak, (2) little/low, (3) somewhat/medium, (4) high, (5) very high/very strong. An index variable was created by adding the measures for both the pre and post assessment. We calculated the mean and standard deviation for all program participants and also report the mean difference and paired t-test from the pre and post assessment.

To ascertain the value of the knowledge and competency instruments, an unrotated principle factor analysis was conducted for the pre- and post-test implementation. We also calculated a Cronbach's alpha score. For all tests, a p-value of 0.05 indicated statistical significance.

## RESULTS

All participants were asked if the information provided was relevant and useful. Most participants agreed with the statement with a range from 78% to 91%. Open ended responses from the following question "How might the Academy be improved?" included: "shorten the program"; "have less time in between in-person meetings"; "if you use case studies, make them specific to group projects"; and "focus on the delivery of the content".

Learning outcomes were measured by administering pre-test and post-test instrument of policy knowledge and the results are summarized in Table 1. A Fisher's exact test was used to assess the pre and post test score for each of the 10 questions. None of the test questions showed a statistically significant improvement in the post test score. The overall pre-test score average of correct answers was 61.76% across all participants and the average post-score was 67.35%; a paired t-test determined that the overall score was not statistically significant between the pre and post test score (p-value = 0.08). A factor analysis of the test items was not statistically significant, and the Cronbach's alpha score was below 0.50 for both the pre- and post-test implementation.

**Table 1. Policy knowledge scores before and after completing the Nebraska Health Policy Academy, 2013-2014**

| | Before | After | |
|---|---|---|---|
| **Quiz Question (1=correct answer, 0 = incorrect)** | **Mean (SD)** | **Mean (SD)** | **Fisher's exact test, p-value** |
| Which of the following is an example of a way an organization could undertake policy, systems, or environmental change? | 0.92 (0.28) | 0.94 (0.24) | 1.00 |
| Which of the following interventions would have the largest impact on reducing smoking in a community? | 0.81 (0.40) | 0.91 (0.29) | 1.00 |
| Which of the following will be the least effective method to reduce obesity levels in a community? | 0.32 (0.47) | 0.47 (0.51) | 0.15 |
| "Community capacity" refers to: the ability of community members to bring about change and improvement over time and across different issues. | 0.78 (0.42) | 0.79 (0.41) | 0.62 |
| Which of the following is NOT among the most common barriers to engaging others in coalitions or partnerships? | 0.32 (0.47) | 0.29 (0.46) | 0.69 |
| True or False: All coalitions must have a formal structure with a name, mission statement, and rotating leadership. | 0.73 (0.45) | 0.91 (0.29) | 1.00 |
| True or False: Consensus in a collaboration means that all parties must be supporting the effort for the same reasons. | 0.86 (0.35) | 0.88 (0.33) | 0.06 |
| The most effective collaborations include: all of the above | 0.70 (0.46) | 0.88 (0.33) | 0.30 |
| The separation point is: when a member of the coalition's interests and priorities no longer align with the effort and they step back. | 0.27 (0.45) | 0.18 (0.39) | 0.64 |
| Which of the following is a usual type of evidence that has the most impact for legislators when weighing important policy decisions? | 0.41 (0.50) | 0.53 (0.51) | 1.00 |
| | % (SD) | % (SD) | Paired t-test, p-value |
| Total Score, % correct (range 30% – 90%) | 61.76% (14.75) | 67.35% (14.20) | 0.08 |

SD, standard deviation

Table 2 summarizes the pre-test and post-test self-assessment of competencies on a 5-point Likert scale with higher scores indicating higher levels of competency from all participants. A paired t-test indicated that all 18 competencies demonstrated a statistically significant improvement in the post-test score. The largest improvements

**Table 2. Self-assessed competency before and after completing the Nebraska Health Policy Academy, 2013-2014**

| | Before | After | | |
|---|---|---|---|---|
| **Competency:** (1) none/very weak, (2) low, (3) medium, (4) high, (5) very high | **Mean (SD)** | **Mean (SD)** | **Difference** | **Paired t-test** |
| 1A: Identify and assess the strengths and motivations of key stakeholders and potential resistors. | 2.55 (1.06) | 4.00 (0.70) | 1.45 | 8.65 |
| 1B: Recognize & effectively use common styles for influencing others. | 2.58 (1.03) | 3.92 (0.67) | 1.34 | 8.11 |
| 1C: Build consensus on key values and a shared vision for action. | 2.82 (1.04) | 3.92 (0.67) | 1.11 | 9.37 |
| 2A: Collect and summarize data on the public health burden, contributing factors, and health equity issues. | 2.68 (1.19) | 4.03 (0.75) | 1.34 | 8.32 |
| 2B: Calculate the societal costs. | 2.05 (1.04) | 3.13 (1.01) | 1.08 | 6.86 |
| 2C: Survey the social, economic, and political landscape. | 2.68 (0.96) | 3.82 (0.80) | 1.13 | 9.91 |
| 3A: Critique the feasibility and expected outcomes of potential policy options. | 2.37 (1.05) | 3.95 (0.90) | 1.58 | 9.97 |
| 3B: Recommend a specific policy change. | 2.37 (0.94) | 3.79 (0.93) | 1.42 | 8.50 |
| 3C: Calculate costs/returns of the policy change. | 2.34 (0.97) | 3.71 (0.73) | 1.37 | 9.90 |
| 4A: Engage decision-makers. | 2.89 (1.15) | 4.13 (0.84) | 1.24 | 8.09 |
| 4B: Frame messages and adapt materials to specific audiences. | 2.79 (1.01) | 4.00 (0.87) | 1.21 | 10.07 |
| 4C: Deploy coalition members in advocacy roles. | 2.76 (0.15) | 3.89 (0.13) | 1.13 | 8.60 |
| 4D: Advocate for resources needed to implement the policy. | 2.50 (1.08) | 3.82 (0.77) | 1.32 | 8.20 |
| 5A: Assist with developing rules, guidelines, and procedures. | 2.61 (1.17) | 3.84 (0.86) | 1.24 | 7.25 |
| 5B: Educate the public about the policy change. | 2.87 (0.99) | 4.13 (0.81) | 1.26 | 8.46 |
| 6A: Monitor outcomes of policy changes. | 2.66 (1.21) | 3.63 (0.97) | 0.97 | 6.00 |
| 6B: Document whether the policy solution is functioning as intended. | 2.47 (0.98) | 3.53 (0.89) | 1.06 | 6.78 |
| 6C: Incorporate evaluation findings into future policy efforts. | 2.82 (1.01) | 3.71 (0.96) | 0.89 | 5.97 |
| Total (possible range 18-90) | 46.82 (2.24) | 68.95 (1.80) | 22.13 | 11.68 |

SD, standard deviation

**Table 3. Factor analysis for self-assessed competency before and after completing the Nebraska Health Policy Academy, 2013-2014**

| | Factor Loading | |
|---|---|---|
| **Competency** | **Before** | **After** |
| 1A: Identify and assess the strengths and motivations of key stakeholders and potential resistors. | 0.65 | 0.68 |
| 1B: Recognize & effectively use common styles for influencing others. | 0.52 | 0.77 |
| 1C: Build consensus on key values and a shared vision for action. | 0.75 | 0.85 |
| 2A: Collect and summarize data on the public health burden, contributing factors, and health equity issues. | 0.72 | 0.70 |
| 2B: Calculate the societal costs. | 0.59 | 0.67 |
| 2C: Survey the social, economic, and political landscape. | 0.75 | 0.62 |
| 3A: Critique the feasibility and expected outcomes of potential policy options. | 0.74 | 0.84 |
| 3B: Recommend a specific policy change. | 0.74 | 0.70 |
| 3C: Calculate costs/returns of the policy change. | 0.56 | 0.59 |
| 4A: Engage decision-makers. | 0.79 | 0.75 |
| 4B: Frame messages and adapt materials to specific audiences. | 0.79 | 0.81 |
| 4C: Deploy coalition members in advocacy roles. | 0.69 | 0.73 |
| 4D: Advocate for resources needed to implement the policy. | 0.75 | 0.65 |
| 5A: Assist with developing rules, guidelines, and procedures. | 0.82 | 0.78 |
| 5B: Educate the public about the policy change. | 0.83 | 0.85 |
| 6A: Monitor outcomes of policy changes. | 0.75 | 0.77 |
| 6B: Document whether the policy solution is functioning as intended. | 0.76 | 0.67 |
| 6C: Incorporate evaluation findings into future policy efforts. | 0.82 | 0.79 |
| | | |
| Eigenvalue | 9.55 | 9.80 |
| Chi square p-value | 0.00 | 0.00 |
| Cronbach's alpha | 0.95 | 0.95 |

for the following: Identify and assess the strengths and motivations of key stakeholders and potential resistors ($\Delta = 1.45$); Critique the feasibility and expected outcomes of potential policy options ($\Delta = 1.58$); and Recommend a specific policy change ($\Delta = 1.42$). The smallest improvement was "Incorporate evaluation findings into future policy efforts" ($\Delta = 0.89$). A summary index score was calculated with a total pre-score of 46.82 and a post-score of 68.95; the paired t-test indicated a statistically significant difference in the summary score ($t = 11.68$).

Table 3 shows the results from the factor analysis of the competency measures. The 18 items loaded onto one factor (eigenvalue > 9) and the factor analysis was statistically significant ($p < 0.001$). All items had a factor loading score > 0.5, and most exceeded 0.6. The Cronbach's alpha score was 0.95 for both the pre- and post-test implementation of the competency assessment.

## DISCUSSION

Most participants had favorable reactions to the Academy learning materials, but the assessment of policy knowledge did not show a significant change. The policy knowledge instrument did not factor well and had a low reliability coefficient suggesting that the instrument needs significant revision.

Participants self-reported improvement in all competencies, with some competencies registering significant improvement. The instrument factored well with a strong eigenvalue and reliability coefficient suggesting that the instrument could be used in future training implementations. However, there is room for improvement because the post-test overall score was

less than 70 which is more than 20 points from the theoretical high score possible for the instrument.

Our study faced certain limitations. We only have two cohorts of data to report because the Academy underwent significant changes during the first cohort and we did not collect consistent data for the first year. Therefore, the sample size is small and based on the second and third year cohorts with complete data. The results will need to be replicated, particularly in other geographies, to be validated. Our instrument for policy knowledge failed to produce evidence of improved learning and metrics to indicate validity or reliability. It's possible that the individual items were poor measures or that the learning materials were not sufficient. Future iterations will need a substantially revised policy knowledge instrument. Finally, we collected qualitative data but did not do so in a systematic manner. These data would be useful for providing insights into relevant outcomes such as behavior change and greater insights into the quantitative measures.

Given the importance of policy as an effective population health management tool to prevent and treat disease, the effort to build capacity in policymaking through training programs is recommended.[1-3] Our curriculum was modeled by a competency framework that aligned with practice based challenges in the community, which has been argued by others to be critical for building health workforce capacity.[4,11-13] The challenge moving forward is for policy training programs to identify improved training methods and materials that will make a lasting impact on the health workforce. Other training programs using knowledge outcomes to evaluate success have been efficacious; therefore, we recommend building upon other measures for policy knowledge found in the literature. However, our instrument for policy competency could be used as an organizing competency framework for future training programs.

Our own reflection of the Academy was that shortening the program and eschewing the cohort model would be an appropriate course of action. Both the length and structure make the Academy financially unsustainable (e.g. require grants) and did not produce overwhelming results from the evaluation data to justify the cost. Therefore, in 2015, we launched a 2-day workshop of the Academy to clinicians and health officials. Unlike the original 9-month, cohort model, the workshop was designed to be a cost-effective means of providing a sustainable version of the Academy based on the intellectual capital we had amassed over the prior cohorts. We provided materials online in advance of the workshop for participants and focused the workshop on in-person speakers that provided significant time for participant questions. Participants were charged a fee to cover the cost of the program, making this new model more sustainable than the cohort model that was supported by a CDC grant. The fee that is charged to participants may allow this new workshop model to be offered regularly, suggesting one path for a sustainable policy training program. We are offering this workshop every two years but geographies with greater population and demand might be able to offer it more often.

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## CONFLICT OF INTERESTS

None

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## Center for Health Policy

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