

## **Web Portal Development**

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## Executive Summary

The Web Portal Development project resulted in the creation of the Outreach Connections: Native Health Information Wiki designed to be a collaborative space for health information outreach projects related to American Indians, Alaska Natives, and Native Hawaiians. More specifically, the space was intended:

- for those who work with health care providers serving Native peoples
- for those who work with Native health information consumers
- to improve health information access for Native peoples
- to exchange information from health information promotion and training experiences
- to complement sites already focused on health information for Native peoples.

From October 2006 to May 2007, a Steering Committee of 16 members developed a team charter. The goals were to:

- facilitate access to information on programs which deliver health information to Native peoples
- facilitate collaboration among individuals and organizations that serve the mission of providing quality health information to Native peoples
- increase the knowledge of effective practices for delivering health information to this population
- provide access to training and promotional materials that are both easy to understand and culturally relevant.

Four subcommittees were formed to carry out the tasks outlined in the team charter. The committees were: Design, Content, Technology, and Publicity/Evaluation. Six tasks charted the course of the project with a designated responsibility for each given to a subcommittee. The tasks and outcomes of each were:

- Task 1: Develop design plan and identify the desired interactivity for the web portal (Design Subcommittee).

Web sites were reviewed to determine positive and negative attributes. In collaboration with the Content and Technology Subcommittees, a choice was made to create a wiki over a blog or discussion forum. MediaWiki was chosen because it was considered the most popular wiki engine, was still under active development, had a good interface for programming custom extensions, had good accessibility, and was free (code is open source). This work occurred from May-October 2007.

- Task 2: Establish criteria for selection and control of content; establish documentation standards for documentation of committee processes; address other content issues (Content Subcommittee).

A decision was made to first populate the wiki with projects from those who attended the 2006 Conference on Native American Health Information Services in the United States, held at the University of New Mexico in Albuquerque, and projects from the National Network of Libraries

of Medicine (NN/LM) database first. Information fields to be included were outlined and refined. A decision was made to have all submitted material openly shared under the Creative Commons, non-commercial, share-alike license so that materials could be borrowed and adapted for one's own use. This work occurred from May-September 2007.

- Task 3: Technical development of web portal; portal goes live with desired look and functionality (Technical Subcommittee).

The vision for what the portal should do resulted from brainstorming in May 2007. Once the wiki was chosen as the portal, a domain name and logo were created. Copyright was an important issue which resulted in the decision to keep copyright with the owner of the material entered. A text-based tutorial was developed on the wiki. In January 2008, Steering Committee members were provided with IDs to experiment in the sandbox. A space called the Community Portal was created for the archiving of project documents such as minutes of meetings, publicity plan and materials, team charter, and other administrative documents. Usability of the wiki was improved by addressing 508 compliance issues, making the wiki easier to retrieve in Google, determining how to upload non-text formats, and overall improved efficiency. In July 2008, the portal began to "go live" with the development and implementation of a publicity plan.

- Task 4: Publicize the site through listservs, professional meetings, and professional contacts with programs wanting to develop their own web presence through the portal (Publicity/Evaluation Subcommittee).

In August 2007, an initial discussion began on promotion and evaluation of the wiki. In August 2008, announcements were sent via e-mail to attendees of the 2006 conference followed by invitations to participate in and contribute to the wiki. A promotion plan was developed which resulted in the creation of bookmarks, a flyer, and a poster which could be printed and used for numerous events. A list of meetings, conferences, and events for potential promotion was generated and posted on the wiki. Members of the Steering Committee took responsibility for promotion at events, reported back to the subcommittee, and documented outcomes of events on the wiki. A concentrated effort was made to have all members of the Steering Committee enter their relevant projects into the wiki and then to encourage participants at the 2006 conference to do so. Promotion of the wiki is ongoing according to the publicity plan posted in the Community Portal on the wiki.

- Task 5: Assure that end-user evaluation of the web portal takes place and write a report to the Steering Committee on the extent to which it achieves the objectives (Publicity/Evaluation Subcommittee).

Towards the end of the performance period of the subcontract for the project, it was determined that while materials had been entered into the wiki by Steering Committee members, there were insufficient users to conduct an end-user evaluation at that time. Instead, it was agreed that an evaluation of the collaboration itself would take place through a series of focused discussions with all 20 Steering Committee members throughout the course of the project. Preparations for this evaluation are in progress and will take place in spring 2009.

- Task 6: Develop online training materials for linked resources (e.g., Effective Practices collection) (Responsibility TBD).

It was decided that other Web sites will have their own procedures and tutorials for adding content to their pages. Instead, it was agreed that an Additional Resources section be created on the wiki for linking other Native health information resources as long as this section not duplicate other resource Web pages already in existence. Suggested links can be sent to a selected group of Steering Committee members who will determine whether suggested links fit a given criteria to be added to this page.

In December 2008, the Steering Committee decided to continue the project, providing current members with an opportunity to continue or resign. New members will be recruited as openings allow, a new team charter will be created, promotion of the wiki will continue, and plans for evaluation of the collaboration will continue to progress.

### **Geographic Regions**

The project spans health information outreach projects for Native Americans, Alaska Natives, and Native Hawaiians, thus covering all of North America (United States and Canada). However, anyone with an interest in North American Native health information is able to access this information, borrow it, and adapt it for one's needs. The projects currently entered into the wiki represent states across the United States which include Arizona, Colorado, Hawaii, Idaho, Maryland, New Mexico, North Dakota, Oklahoma, Utah, Washington, and Wisconsin.

### **Collaborations/Partnerships**

The collaborators in this project were the University of Utah and the University of New Mexico who were responsible for the subcontract award. The Steering Committee was composed of representatives from each of the regions of the National Network of Libraries of Medicine (NN/LM) and from the National Library of Medicine, which over the span of the project encompassed 20 persons from throughout the United States. As the project began in October 2006, there were 16 members on the Steering Committee. During the course of the project, five members resigned from the project due to retirement or conflict with changing job responsibilities. A total of four new members joined during the course of the project with one replacing the initial Principal Investigator due to retirement at the end of July 2008, one replacing a colleague who resigned, the hiring of an analyst programmer, and the addition of an advisor/consultant for evaluation. At the end of the grant period, on December 31, 2008, there were 15 members.

### **Training**

The primary purpose of this project was not to provide training but rather to provide access to Native health information projects and materials.

### **Training Sites**

N/A

## Exhibits / Poster Presentations

Promotion of the wiki through events can be found in the Community Portal section of the wiki at [http://native.outreachconnect.info/wiki/index.php?title=OC:Promotional Opportunities](http://native.outreachconnect.info/wiki/index.php?title=OC:Promotional_Opportunities) . Events in 2008 included:

20<sup>th</sup> Annual Native Health Research Conference  
Portland, OR  
August 25-28, 2008

Flyer was shared with administrators at the Indian Health Service to make announcements at this meeting and later facilitate further publicity to tribal leaders and health directors.

6<sup>th</sup> National Conference on Quality Health Care for Culturally Diverse Populations  
Minneapolis, MN  
September 21-24, 2008  
Bookmarks were distributed at the NLM booth at the exhibit hall.

National Indian Health Board Annual Consumer Conference  
Temecula, CA  
September 23-25, 2008  
Bookmarks were distributed at NLM's Specialized Information Services booth at the exhibit hall.

National Diversity in Libraries Conference  
Louisville, KY  
October 1-4, 2008  
Bookmarks were distributed at the NLM booth in the exhibit hall.

Association of Research Libraries and Coalition for Networked Information Fall Forum  
Arlington, VA  
October 16-17, 2008  
Poster presentation.

New Mexico Library Association Mini-Conference  
Socorro, NM  
October 17, 2008  
Wiki was highlighted as part of a presentation on the Native American Health Information Services at the University of New Mexico Health Sciences Library and Informatics Center.

American Public Health Association Annual Conference  
San Diego, CA  
October 25-29, 2008  
Bookmarks were distributed at the NLM booth (NN/LM Pacific Southwest Region) in the exhibit hall.

Indian Health Information Management Conference  
Phoenix, AZ  
December 15-19, 2008  
Poster presentation.

NIH Summit: The Science of Eliminating Health Disparities

National Harbor, MD

December 16-18, 2008

Handouts about the wiki were distributed at the NLM booth in the exhibit hall.

## Resource Materials

The publicity plan and links or pdf files of all promotional materials may be found in the Community Portal's Publicity Materials section of the wiki at [http://native.outreachconnect.info/wiki/index.php?title=OC:Publicity\\_Materials](http://native.outreachconnect.info/wiki/index.php?title=OC:Publicity_Materials) . Materials include two different announcements (see links), one about the wiki's availability and the other as an invitation to participate. A bookmark (see pdf) was also created which can be printed and used for promotional purposes. An 8 ½ x 11 inch flyer (see pdf) was created for promotion. Finally, a poster (professionally printed and housed at the University of New Mexico) was created for poster sessions at conferences and other pertinent events.

A promotional opportunities page, linked from the Community Portal at [http://native.outreachconnect.info/wiki/index.php?title=OC:Promotional\\_Opportunities](http://native.outreachconnect.info/wiki/index.php?title=OC:Promotional_Opportunities), contains the publicity plan for promotion of the wiki. Included is a link to the National Library of Medicine Exhibit Schedule, groups who may serve as resources for promotion, a listing of 2008 proposed promotional events with an indication of the individual responsible and whether it was done, and proposed 2009 events. Events and other promotional possibilities will be added to this page as opportunities arise.

## Web Sites

The web portal that was created is a wiki called Outreach Connections: Native Health Information at <http://native.outreachconnect.info/wiki/> . The home page of the wiki invites users to the wiki as a collaborative space for persons interested in health information projects for Native peoples. Tabs at the top of the page include a discussion section for interaction between those administering the site and users of the site. The Navigation section along the left side provide a means for adding a project, browsing existing projects by title or project information, contact information for authors of projects, recent changes to the wiki, and a community portal which provides the site policy, minutes of meetings, publicity plan and materials, information about use of photos on the banner for the site, duties of system management, and maintenance tasks.

Beyond the grant period, the project will continue to be administered at the University of New Mexico in collaboration with the Steering Committee. Staff at the Health Sciences Library and Informatics Center at the University of New Mexico will continue the technical maintenance of the wiki.

Starting September 1, 2008, data has been available to evaluate usage of the wiki through the Dashboard. This data can be monitored to evaluate the impact of the project over time. Examples of the data include number of visits, number of visitors, traffic sources, page views, page visits, which browsers were used to visit the site, connection speed of visitors, country/territory of visitors, and average time on site.

## **Document Delivery and Reference Services**

N/A

## **Approaches and Interventions Used**

Regular monthly meetings were scheduled for the Steering Committee. At times the Steering Committee meetings became bi-monthly to allow subcommittees to meet during alternating months.

Promotion/marketing is summarized under Task 4 in the Executive Summary section of this report. Details may be found on the wiki under the Publicity Materials section of the Community Portal at [http://native.outreachconnect.info/wiki/index.php?title=OC:Publicity\\_Materials](http://native.outreachconnect.info/wiki/index.php?title=OC:Publicity_Materials) . At this site are descriptions and links to publicity materials and a link to a promotional opportunities page which details resources, groups, and events for 2008 and 2009.

Personnel are summarized in the Collaboration/Partnerships section of this report.

Development of the wiki is summarized under Tasks 1, 2, and 3 in the Executive Summary of this report.

## **Evaluation**

Task 5 of the team charter indicated that an end user evaluation would take place. As the grant period was coming to a close, it was apparent that there were not a sufficient number of users to conduct an evaluation of their use of the wiki. Those who had contributed projects to the wiki were members of the Steering Committee and attendees at the 2006 Conference on Native American Health Information in the United States in Albuquerque, New Mexico from which this project idea originated. The Steering Committee instead decided that there would be an evaluation of the collaborative experience itself, using focused discussions to interview all who had participated in the Steering Committee during the course of the grant period. As of December 2008, good progress had been made in outlining a plan to conduct the focused discussions and drafting questions to be asked. The focused discussions and analysis will likely take place in the first quarter of 2009.

## **Problems or Barriers Encountered**

In terms of the technology, the analyst programmer reported encountering some challenges of a highly technical nature typical to programming, such as ensuring plug-in capability and error-free user experience. In addition, although the wiki is generally user-friendly, technical support is still needed to assist people who are less familiar with this technology or where certain restrictions are in place such as in deleting a page.

Throughout the project there was a sustained core of members who participated regularly in meetings and were therefore actively engaged in the work. However, approximately one-third of the members either started the project and dropped out, typically due to changes in their job, or did not regularly attend meetings, resulting in less overall participation in the work of the project.

Questions about additional problems and barriers will be asked as part of the focused discussions on the collaboration. If necessary, a revised version of this final report will be submitted with this information.

### **Continuation Plans**

The project has remained active beyond the funding period of the subcontract. As the funding was coming to an end in December 2008, the Steering Committee agreed to continue the project by confirming continuation or recruitment of new members, continuing with the active publicity plan, continuing preparations for an evaluation of the collaboration, and reconvening in 2009 to develop a new team charter. A Steering Committee meeting has been scheduled in February 2009 to make continuation plans. Maintenance of the wiki will continue to be administered by staff at the University of New Mexico. Remaining publicity materials (i.e., poster and bookmarks) will be housed at the University of New Mexico and distributed as needed until the supply runs out. After that time, members of the project will use the pdf version of the promotional materials from the wiki to produce copies for promotional events. The wiki is meant to be a collaborative space in which all users share responsibility and have ready access. The project will continue as a shared, collaborative project, regardless of funding.

### **Impact**

The impact of this project has yet to be formally evaluated. An evaluation of the collaboration through focused discussions with the 20 members of the Steering Committee over the course of the project is being planned for spring 2009.

Usage data from the wiki, available from September 1, 2008 through December 31, 2008, may shed some light on the impact of the project. During this three-month period, there were 523 visits, 279 visitors, and 5,775 page views. The 523 visits came from 6 countries/territories which included United States (507), Canada (10), Poland (2), France (2), Switzerland (1), and India (1). So, while most of the attention to the site is coming from the United States, there is an international appeal as well.

The two main collaborators of the wiki project, University of Utah and University of New Mexico, are both regularly engaged in services and activities which promote Native American health information and are in geographic areas with a high concentration of Native American peoples. The Outreach Connections wiki adds to the wealth of resources and services being offered for the promotion of Native American health not only in this region, but has value and can be adapted for use internationally by anyone with an interest in Native American health information.

### **Recommendations for Improvement**

Tasks 5 and 6 were not completed, although both had been discussed and were in progress within the performance period. This was, in part, because of the delay in starting promotion of the wiki. The idea was to have Steering Committee members and attendees from the 2006 Native American Health Information conference populate the wiki with their projects before the wiki was freely opened to the world. It took some months of reminding and offering of assistance if needed to get this core group to enter their projects. Once a good representation of projects had been entered, the publicity plan,

promotional materials, and list of promotional opportunities were generated and soon thereafter plans for evaluation began.

The promotion and evaluation tasks required a significant amount of work from a subcommittee of about five people. Progress was continual and tasks were completed in a timely manner; however it was a substantial amount of work within a short period of time. Perhaps if the Publicity/Evaluation Subcommittee had more working members, these tasks could have been accomplished more quickly. Also, if the publicity and evaluation tasks had been split into two different groups and were not being done by the same people, quicker progress could have been made.

The focused discussions with Steering Committee members may provide additional recommendations for improvement.

## **FOLLOW-UP QUESTIONS**

### **1. Were your original project goals and objectives met? If not, why not?**

In terms of the four goals stated in the Executive Summary, creation of the wiki met the goals in terms of providing access to information, facilitating collaboration, increasing knowledge, and providing access to promotional materials. However, in terms of the steps to meet the goals, outlined as six specific tasks as indicated in the Executive Summary, Tasks 1-4 were achieved. Task 4 which involved promotion is ongoing. Task 5, which involved evaluation, is in progress and will be completed in spring 2009. Task 6 has been discussed but is yet to be implemented. With the commitment of most of the current Steering Committee members to continue with the project into 2009 and with plans to develop a new team charter, it seems highly likely that the unfinished tasks will be completed, promotion will continue, and this collaboration will take ongoing responsibility for the maintenance and any necessary further development of the wiki.

### **2. What significant lessons were learned which would be of interest or use to others conducting outreach projects? Which strategies were the most effective in implementing the project?**

These answers may best be answered in the focused discussions of Steering Committee members of this project.

### **3. If you were to start all over again, what, if anything, would you change about your goals, project plans, etc.?**

From the technology standpoint, we might reconsider using MediaWiki as the underlying search engine. Although it has many advantages and is the most popular wiki engine available, its interface requires a lot of custom programming to create a user-experience that is intuitive and comfortable. The hosting company did not allow privileges required to install and run an alternative search engine and indexing service called Sphinx. Also, the ability to categorize pages in MediaWiki, while present, was very poorly designed, making information management quite tedious without the assistance of automated users called bots.

Again, the focused discussions might provide additional information in this area. It would have been helpful to have had an opportunity to complete the evaluation of the project during the performance period. It took more time than anticipated to get people to take the time to enter their projects into the wiki so that promotion could begin and subsequent evaluation could follow. These factors cannot always be controlled despite the timeline of the project.

#### **4. What advice or recommendations would you give to anyone considering a similar outreach effort?**

Use a team charter to assure that everyone understands the direction of the group and has the opportunity to help determine that direction.

Hire a programmer. Volunteers can be pulled away by other priorities. Having someone whose job it was to produce the wiki, meant that it could proceed on schedule.

Always begin by understanding the expected users and their potential needs. If the users are technically-inclined, web-savvy people, then MediaWiki may serve them well. If the users are people with minimal technical experience, then it may be helpful to investigate other wiki engines with the following features in mind: (1) simple to use; (2) has a graphical editor (similar to Microsoft Word or Open Office); (3) good search engine; and (4) good documentation.

#### **5. Please describe plans for disseminating lessons learned and other information about the project, such as through a conference presentation or publication. In accordance with the NIH Public Access Policy (<http://publicaccess.nih.gov>), project directors are asked to submit voluntarily to the NIH manuscript submission (NIHMS) system (<http://www.nihms.nih.gov>) at PubMed Central (PMC) final manuscripts upon acceptance for publication.**

A proposal was submitted to the Medical Library Association Conference to be held in May 2009 in Hawaii to present a comparison of the evaluation of the Outreach Connections wiki collaboration with the evaluation of the Tribal Connections Four Corners project. Unfortunately, this proposal was not accepted.

No other presentations or publications have been identified by the Steering Committee at this time. However, this discussion will take place as the members reconvene to develop the next team charter for continuation of the project. Considerations may include a poster session comparing the two collaborations, an article in a journal, or presentation proposal for a different conference.