Published in final edited form as:

J Consum Health Internet. 2009 July 1; 13(3): 223–236. doi:10.1080/15398280903119838.

Discover Health Services Near You! The North Dakota Story: Part II

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Abstract

Since the 2003 launch of NC Health Info, the National Library of Medicine has encouraged the development of Go Local databases. A team of Go Local enthusiasts at North Dakota's only medical school library wanted to obtain NLM funding and build a resource for their rural state. Although short on staff, money, and time, the team found a way to realize a Go Local database that serves the state's residents and helps them "Discover Health Services Near You!" A team approach and collaboration with health providers and organizations worked well in this small rural state. North Dakota's Go Local project offers a low-cost model that stresses collaboration, teamwork and technology. Part I which appeared in the last issue describes the rural setting, explains how the project was conceived, and the processes necessary to begin building the database. Part II which appears in this issue details how records were created including developing the input style guide and indexing decisions, the NLM testing and review process, the maintenance and auditing process, and publicity and promotion of the project.

Keywords

Consumer health information; database development; Go Local Project; MedlinePlus; National Library of Medicine; North Dakota; online directories; publicity; rural health care services; rural health care providers

INTRODUCTION

Part I of this article, which appeared in the previous issue of *Journal of Consumer Health on the Internet*, described the rural setting of North Dakota and highlighted activities that librarians at the University of North Dakota's School of Medicine embarked upon to make Go Local North Dakota <<http://www.medlineplus.gov/golocalnd>> a reality.¹ Among these were project planning and identification of service information. These endeavors eventually lead to the start of record input beginning in January 2008. Identifying and collecting service information for

North Dakota's Go Local continued during record input. Not only did the two processes run parallel to each other, but they were often intertwined. For instance, it was not uncommon for related services to become apparent while creating a record. This could happen while analyzing services linked from the Web site being reviewed or while perusing multiple service locations within the site itself. Regardless of the source, information that was collected needed to be reviewed for accuracy prior to finalizing the record. Part II of this article details how records were created including developing the input style guide and indexing decisions, the NLM testing and review process, the maintenance and auditing process, and publicity and promotion of the project.

BUILDING THE GO LOCAL DATABASE: CREATING RECORDS

Verification of Data

Some sites used to identify services were also useful for verifying data obtained from other sources. An example was the North Dakota Department of Human Services Web site <<http://nd.gov/dhs/>>, which frequently confirmed or augmented information found elsewhere. Service providers were also contacted by e-mail or by phone when it became necessary to substantiate information or to resolve conflicts between sources.

Although selection guidelines did not allow for inclusion of individual physicians, certification of health care providers associated with private clinics was verified using the North Dakota Medical Association's Web site <www.ndmed.org>. The site maintains certification information for health practitioners in the state. Contact information was routinely checked using standard online phone directories or other sources such as Switchboard <<http://www.switchboard.com/>>, AnyWho's reverse phone lookup service <<http://www.anywho.com/rl.html>>, and Google <<http://www.google.com/>>.

Using the Go Local Input System

As noted in Part I, a number of mechanisms were used to create records in Go Local North Dakota. Choices included import from spreadsheet data, creation of new records using the new record input form, and copying records existing locally or in other Go Local sites. Imported records initially resided in an incomplete record area until they were edited, sent to pending, and finally approved. When a record was selected for copy, the information was placed in a new record input form.

The record input form allows the person creating the record to indicate whether the record can be shared with other Go Local sites. A shared record is treated as one record even though it is shared among many sites. Dates are automatically entered by the system indicating when the record was entered, modified, reviewed, or audited. A site name will be hyperlinked in the public display if a Web address is input into the URL field of the form and the default display option is not changed. Buttons to have the system check for duplicate or similar records are available. If there is a match on the Site Name, Address 1, and URL field combination, the system reports duplicate record(s) found. If there is a match on the Site Name and City fields, the system will report similar records(s) found. The system does not check for consistency in formatting addresses or phone numbers. Established guidelines helped maintain consistency in this area. There is a pull-down menu from which names of states can be selected and a handy link to the US Postal Service Zip Code Lookup appears underneath the zip code input box. Text describing a service may be added to the description along with HTML coding for links that will point the user to added information. Links can be designed to open a new window or to open in the same window. The language feature allows a Go Local site to display the languages spoken by service providers. Go Local North Dakota's project did not use the language field, but it is available to systems that find a need to use it.

The default service area parameter in Go Local is the “Use Zip Code” option. Within the public interface, it translates into the county where the service is located based upon the zip code appearing in the address. Other service area options include “List of Counties,” which permits selection of two or more counties for multi-county or regional services, as well as “Entire Area,” which defines a service as being available to the entire state or project area.

Staff may choose to suppress display of a record to the public. When display of a record is suppressed, a reason must be chosen from a pre-defined list available in the input form. Available options include the link is broken; staff must check for later display; the Web site contains advertising; the record is a duplicate; the record needs to be deleted, verified, or updated; and the service is not authoritative or does not have local service information.

At least one local service term is required and may be mapped to local health topics after it is selected. If a service is part of a larger organization, an organization name may be associated with the site. The organization’s name is searchable within the input system and results in more complete retrieval of records connected with the organization than would otherwise be possible. This is useful when completing maintenance tasks or when engaged in other functions. The organization name also displays to the public and can be helpful in placing a particular site within its larger context. A comments field is available but does not show to the public. Selectors may add information about the record to this field in order to aid others working with the record. Finally, coding in the local ID field can be used as an internal mechanism for tracking records and managing the database. The field does not publicly display and cannot be searched from the public site. Libraries can be creative in developing schema. Developing a plan prior to the start of record input will serve to maximize the field’s potential.

After a record is edited, it can be submitted to pending for review, saved as incomplete, or canceled. Upcoming changes in the input system will permit records to be submitted as approved. Local administrators can allow or disallow this ability by password.

Using the Input Style Guide

Input standards established prior to record creation were codified in an input style guide. These standards were followed when creating records and when inputting data. The purpose of the style guide was to:

1. Facilitate uniformity in data input.
2. Make data visually consistent.
3. Promote effective searches by using standard input conventions.
4. Protect against duplicate records.

Effective search retrieval as well as checks for duplicate and similar records depended upon consistent input practices. In addition to defining consistent use of punctuation, capitalization, and abbreviations, the document specified criteria for all fields, outlined general guidelines for defining service areas, and provided guidance for applying service and topical terms.

Local Conventions Intervene

Practices initially outlined in the style guide were established early in the project prior to any experience gained from record input. Therefore, they did not address every situation arising during the record creation process. This section highlights some of these situations and describes the local conventions adopted to address them.

Establishing the site name of a service was usually straightforward. The name was formed as it displayed on a service’s Web site or in standard directory sources. An exception to this was

names associated with departments within a health system. Since many records created for health systems were at the departmental level, a decision had to be made regarding the construction of their names. The question was how best to represent the parent/child relationship that existed between the health system and its departments. Several choices were considered and the prevalent form used by other Go Locals was taken into account. The decision was made to use a hyphen to separate the two elements (e.g., Mid Dakota Clinic – Internal Medicine). The organization field was used to express the fact that a service was part of a broader entity. In this case, Mid Dakota Clinic is part of PrimeCare Health Group. The record would display to the public as “Mid Dakota Clinic – Internal Medicine (PrimeCare Health Group). This provided some clarity to the user about the identity of the service. Within the input system, the organization field allows easy retrieval of all entities associated with a particular network or group.

There were factors to consider when determining the number of records to enter for a service that had multiple locations. Separate records were created for services having no common Web site. However, one record was often utilized when a Web site employed hypertext options such as clickable maps linking visitors to specific service locations. When this was the case, a statement referencing that information was constructed and a link to the Web site’s hypertext options was placed in the description field of the Go Local record. The service was designated as being state-wide or multi-county depending on its scope. For multi-county services, specific counties within the service area had to be selected from the list of counties available within the input form. The Go Local record for County Social Services in North Dakota is an example where these conventions were applied. The record is designated with a service area for the entire state and can be retrieved by clicking on any county found on the Go Local map. Yet the user can access his or her county office and services using the link in the record’s descriptive field. Using this technique saved considerable time in constructing the database and will streamline ongoing record maintenance in the future.

Another consideration concerned geographical access to tribal services. As noted, Native Americans were identified early in project planning as a demographic group for which services would be included. Since four of the five reservations in the state had boundaries exceeding one county, and boundaries of reservations and counties did not always coincide, a plan had to be developed that would represent where services were available. It should be remembered that the county unit is the basic service area defined by NLM for Go Local. Therefore, tribal services could not be expressed geographically by city or by any other smaller unit. The resulting plan provided that all services specifically designed for Native Americans and located within the boundaries of a reservation would be indexed for each county included within the reservation boundaries. This was a compromise and not a perfect solution. But it is an example of working within the limits of the input system in order to accommodate a unique objective.

Indexing: Service and Topical Terms

There are more than 150 health service terms relating to 300 health topics available to the indexer when creating the Go Local record.² Subject indexing combines service terms (e.g., Food Programs) with health topics relating to the term (e.g., Nutrition). Service terms and topical terms may not be assigned independently and always exist in pairs (e.g., Food Programs/ Nutrition). The health topics list is a subset of those created by NLM for use in MedlinePlus. The service types list was created by North Carolina Health Info, and has been expanded and adapted for use with other Go Local sites.³

At the time Go Local North Dakota’s database was being developed, all imported records as well as those created using Go Local’s software were indexed within the input system. A newer version of the software allows assignment of vocabulary prior to record import. Accompanying scope notes aid the indexer when assigning service terms. Associated topical terms are grouped

in separate windows for those with automatic and suggested mapping from the service term. A third option for other mapping allows additional topics to be assigned.

The task of linking topics with a service was the most challenging aspect in the record creation process. The system allows indexers to select topics one by one or to select all terms from which they may de-select terms that do not apply. Many service terms map to 50 or more topics, and choosing only those that apply to a particular service can be elusive. The process is complicated by the fact that topical lists often integrate terms for health conditions, facilities, medical procedures, and medical specialties that address particular demographic groups. The extensive number of mapped topics for some services adds complexity. For instance, there are over 200 suggested topics mapped from the service term “Hospitals.” In attempting to de-select topics not covered by the service being indexed (e.g., nursing homes, Native-American health, radiation therapy), it becomes easy for inaccuracies to occur.

Failure to delete topics not covered by a service can be troublesome and often gives unexpected results in the public interface. A solid understanding of the impact indexing has on a record’s display is important. Prior to going live, the only mechanism to view records as they will appear to the public is the preview option. Records are immediately available for preview once they have been created.

NLM Testing: Cleanup and Customization

Go Local North Dakota exceeded its own expectations for record input having nearly 3,100 records ready to be made available to the public by early July 2008. Record input had begun in early January, with the entire input process spanning approximately seven months. In preparation for the site’s final review by NLM, data were exported to Excel spreadsheets to check for consistency of input and accuracy of information. Cleanup issues were identified in a preliminary review conducted by NLM the previous February, and a few more had been subsequently identified. Many were stylistic in nature. In some cases, changes in practice had been implemented in midstream after inconsistencies were recognized. But since the emphasis was on creation of new records, errors already present often remained. One example of inconsistency was that services listed in some record descriptions appeared as capitalized, while appearing lowercase in others (e.g., “Services include Physical Therapy” vs. “Services include physical therapy”).

NLM completed its prelaunch testing of the site and provided a summary of findings on July 18, 2008. Content ranged from general comments to specific suggestions. The report was thoroughly reviewed, and the feedback was found to be detailed, illuminating, and helpful. The bulk of the report focused on a review of selected priority 1 local service terms followed by a shorter health topic review. The report made suggestions for adding services, highlighted similar sites present in the database that might be duplicative, and pointed out remaining typographical and stylistic errors.

The report also made suggestions for customizing the site in order to give it the look project staff wanted it to have. The focus turned to customization issues and the design of the site’s home page. Go Locals can personalize their sites by using the input system’s customization module. The module allows modification of a site’s header, footer links, and colors. Images can be uploaded, and easy-to-use content forms are provided. Components of the Go Local North Dakota home page included a banner that was developed by staff in conjunction with graphic designers at the School of Medicine and Health Sciences’ Information Resources Department.

A number of customized information pages that are linked from the site’s home page were also developed. An “About Us” page informs the public about Go Local North Dakota, references

the “Contact Us” page, and includes a disclaimer statement. The “Contact Us” page displays radial buttons that provide the user with two options. One takes him or her to a “Send us Feedback” form that invites comments concerning the site. The other takes the user to a “Suggest a Resource” form. When suggesting a resource, users are asked to provide information as completely as possible. The “Send” button at the bottom of each form transmits feedback to a dedicated electronic mailbox located on the library’s mail server that is monitored daily.

Go Locals may also create featured sites that display on the home page. Featured sites can be text only, text and image, or image only and opened in the same window as the home page or in a new window. The system generates a list of featured sites that displays the appearance date of each site and indicates which site is active. Featured sites are selected for display so as to coordinate the site’s theme with national or regional health related events to which Go Local North Dakota wishes to draw attention. Recent examples include Autism Awareness Day, National Eating Disorder Awareness Week, and Cancer Control Month. Featured sites are sometimes coordinated with the theme of a conference at which Go Local North Dakota is exhibiting. During a recent natural disaster, the featured site was used to highlight flood related services and resources. The new version of the software currently being implemented provides additional options for responding to disasters through its disaster preparedness and response module.

Go Local North Dakota’s soft launch occurred on August 26, 2008. All functionality was in place by that time and records became available to the public. However, the site was not promoted until one month later. Between its soft launch and promotion to the public, staff had an opportunity to work with the public interface for the first time. This facilitated identification of a number of topics inappropriately associated with service terms that needed to be corrected. This task was given a high priority during the intervening month in order to have as clean a database as possible once promotion to the public began.

ONGOING MAINTENANCE AND RECORD AUDIT

There are two primary mechanisms for maintenance of records within Go Local. A link checker report is generated weekly by NLM that reports broken and problematic links. The other is the audit module. The module allows local administrators to set an audit profile and to assign records for audit to particular staff.

NLM expects that Go Locals will review each record at least once each year. Go Local North Dakota has chosen an auditing interval of once every 12 months. This decision is based upon cost-to-benefit considerations as well as an assessment of available staff. The Harley E. French Library has funded a part-time student position and has hired a student for this task. The database coordinator is responsible for training and supervising this position with overall responsibility for the audit process. Implemented in January 2009, experience with keeping the database up to date continues to grow. So far the results have been positive and staff members are confident that the database will be kept current and remain relevant to the needs of state residents.

GO LOCAL NORTH DAKOTA’S PUBLIC IMAGE

As the time grew nearer for planning the publicity and outreach portions of the project, the need for a logo and graphic design skills became a top priority. A portion of the award money had been reserved for publicity requirements. Most of the money was spent on creating the banner (see Figure 1), which included the full name of the project as “Go Local North Dakota: Discover Health Services Near You!” The logo part of the banner was designed to be used in a variety of ways. It was necessary to have multiple images for the promotional materials, such

as a four-color logo, two-color logo, black and white brochure, color brochure, banner, bookmark, and magnet. See Figure 2 as an example of the logo as it appears on the magnet.

As noted earlier, using the medical school's in-house graphics department made the process easier as they are located nearby and have a good working relationship with the library staff. This was another time when the Go Local Extranet was especially useful. Looking at the publicity materials from other Go Local projects made it much easier to decide the types of publicity items to purchase. It was also helpful to see the text other projects used for their brochures and bookmarks. Cost of publicity materials became a big factor and care needed to be taken in budgeting for these expenses.

PROMOTING THE PRODUCT

Go Local North Dakota's promotion and outreach activities rely to a large extent upon the library's already existing clinical campus library structure explained earlier in Part I of this article.¹ Clinical campus librarians, all located at partner libraries, work directly with other collaborating institutions and stakeholders in their part of the state both to identify resources and to provide training. This structure allows easier outreach across the expanse of the state. Campus librarians will assist with exhibit booths and/or training sessions and presentations at both professional meetings and consumer-oriented events throughout North Dakota. It is anticipated that promotion will also be done by collaborating institutions, stakeholders, and other institutions. Promoting Go Local North Dakota as part of a larger exhibit by these entities will maximize promotional efforts. For instance, the North Dakota State Library actively exhibits at events around the state, and they have been approached about promoting Go Local North Dakota at such events. The UND Center for Rural Health's Rural Assistance Center also can provide an avenue for promotion since they exhibit locally and nationally <<http://raconline.org>>.

GO LOCAL NORTH DAKOTA GOES LIVE!

The first promotional event was held at the North Dakota Library Association Conference (NDLA) in Mandan, ND, at the end of September 2008. This was a good location due to the variety of librarians attending the conference. The location in Mandan was also good as it drew more public librarians from rural western North Dakota. Public librarians were identified as collaborators who will play a key role in helping to identify new resources for the database along with providing publicity in their communities. In particular, their assistance is needed in locating resources in the very rural, less populated areas of the state. Planning for the NDLA event started months in advance when the Health Sciences Information Section (HSIS) created its conference program on consumer health resources. The decision was made to focus the program on MedlinePlus and Go Local North Dakota. The decision was also made to pay for an exhibit booth. As part of the launch event, the planners invited staff from NLM and the NN/LM Greater Midwest Region (GMR) staff to come to North Dakota and join in the celebration.

Several months before NDLA, the UND Medical School's Public Affairs office was contacted for assistance in planning a press conference. They helped make the legislative and media contacts needed for the event. It was decided to hold the press conference during the second half of the HSIS program when Go Local North Dakota was featured. After the HSIS program, the Go Local team along with the NLM and GMR representatives were available to speak to the press. One interview made the evening news and was seen over a wide area of western rural North Dakota. In addition, earlier press releases to the local newspapers were picked up and became an AP newswire story. The story appeared in many of the state's newspapers. North Dakota Public Radio also picked up the story and aired an interview with the project's coordinator approximately a month after the event. This provided another surge of publicity.

Creating a Presence

The first large event for the public in which Go Local North Dakota was featured was the Women's Showcase held in Fargo on Saturday, October 25, 2008. The Showcase is designed to promote local resources and services of special interest to women. The event has been held for the last seven years. Traditionally there is a headline speaker of national recognition along with a variety of short programs. Utilizing an Outreach Express Award from the GMR, a booth was planned that highlighted MedlinePlus, Go Local North Dakota, Household Products database, and Toxtown. The GMR provided a large display unit and a variety of handouts for the booth. Locally created Go Local North Dakota bookmarks, brochures, and magnets were available. MedlinePlus magazines were also available. The participants each received a bag as they entered the event, and there was a Go Local North Dakota magnet in each bag. People were very interested in health care information that was free and had no advertising. The attendance at the event numbered 4,500, and more than 770 women stopped at the booth. There were 275 exhibitors.

IS GO LOCAL NORTH DAKOTA SUCCEEDING?

It is too early to determine the answer to this question, but NLM-provided statistics are a useful tool in evaluating the success of outreach events. Statistical reports are provided monthly. Go Local North Dakota found the most useful to be: active visits by date, page views by hour, the locations of the IP addresses connecting to the site, and terms viewed. Figures 3 and 4 show distinct bumps in usage during September and October 2008 following outreach activities. The statistics will also be used to determine which service and health topic terms are searched for the most.

The library's traditional outreach schedule provides many opportunities to emphasize Go Local and MedlinePlus. Examples of conferences and activities routinely attended by UND and its partner clinical campus librarians include the Dakota Conference on Rural and Public Health, the North Dakota Women's Health Research Conference (CORE), the Turtle Mountain Community Wellness Conference, the UND Time Out Wacipi Pow-Wow, and the North Dakota Nurses Association Conference. Promotional exhibits publicizing Go Local North Dakota to the public are being considered for events such as the North Dakota Winter Show held in Valley City, the North Dakota State Fair held in Minot each summer, and the Healthcare Horizons Conference facilitated by Altru Health System in Grand Forks. In addition, there are a number of smaller, local health-related programs across the state. Money becomes an issue as the team looks at these bigger events. Fees for booths can be expensive, and there is the potential for needing large quantities of promotional items. Fortunately, it is possible to utilize outreach money and some awards from the GMR for exhibits promoting all the NLM products including Go Local.

As the project continues, the Go Local resource suggestion form will be customized and put on the Web sites of partnering and collaborating institutions. It is currently available on Go Local North Dakota's official site. A self-running slide show will be developed for use in locations where an Internet connection is not available for demonstrations. Finally, new user groups such as social workers will also be targeted for further publicity initiatives.

CONCLUSION

In less than a year's time, Go Local North Dakota was available and providing information regarding health services for the state's residents. The rural nature of the state shaped the planning and development of the database and ultimately will impact its success. A thorough examination of the state's demographics and the needs of special populations were considered

when determining parameters and priorities. These factors will continue to be influential as the database is maintained and promoted to users.

Before Go Local could be developed in North Dakota, a realistic view of available staff, money, and time revealed that a different approach was needed in this rural state. The decision to use a collaborative team for Go Local North Dakota was the solution. Existing staff librarians and a temporary part-time student-staff employee at the University of North Dakota were able to meet the challenges of creating a viable database. The start-up money from NLM and further assistance from the GMR in promoting the resource were also important components in enabling Go Local North Dakota. It is hoped that this description of a Go Local project can serve as an example of a successful low-cost model with an emphasis on collaboration, teamwork, and technology.

Acknowledgments

The North Dakota Go Local project was funded in part with federal funds from the National Library of Medicine, National Institutes of Health, under Contract No. NO1-LM-6-3503.

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FIGURE 1.
Go Local North Dakota Banner

FIGURE 2.
Go Local North Dakota Magnet with Logo

FIGURE 3.
September 2008 Visits. NDLA Press Conference was held on September 26

FIGURE 4.

October 2008 Visits. Women's Showcase Event was held on October 25