

The NLM-Hosted Go Local System: An Opportunity for Medical Libraries

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Background

The National Library of Medicine's MedlinePlus is a high-quality gateway to consumer health information from NLM, the National Institutes of Health (NIH), and other government, professional and voluntary organizations creating authoritative health information. The core of MedlinePlus is over 750 Health Topic pages: highly selective collections of links to Web documents. Health topic pages organize the documents into categories such as overviews, diagnosis, treatment, and prevention¹. Licensed content supplements the health topic pages in areas where authoritative Web content is not available. MedlinePlus licenses drug information, a medical encyclopedia, health news, a medical dictionary, and interactive health tutorials. Special features include webcasts of surgical procedures, collections of health check tools, and subject lists of easy-to-read materials. MedlinePlus is the most heavily used government-sponsored consumer health portal. In April 2008, over 13 million unique visitors viewed over 71 million pages.

What MedlinePlus does not include is information on local health services. Early in the development of MedlinePlus, NLM staff recognized that local organizations would be the best source of information about services in their states or regions. MedlinePlus concentrates on linking to information about diseases, conditions and wellness issues from national sources. Providing the information on facilities, health care professionals, programs and services, is the goal of MedlinePlus Go Local. The ultimate goal is to integrate the two complementary services. MedlinePlus provides the health information and link users to Go Local sites for information about services. Go Local sites would provide the links to local community services and connect residents to MedlinePlus for health information.

In the beginning: Locally hosted Go Local sites

The University of North Carolina at Chapel Hill created the pilot Go Local site, NC Health Info. The site was several years in the making. A feasibility study in 2000/01 preceded the development of a web-based input system, vocabulary for services, mappings between the services and MedlinePlus health topics, and resource collection. NC Health Info debuted in February 2003². In 2004, the University of Missouri became the second Go Local site with Missouri's Community Connection. Community Connection linked the health portions of an already existing database. Their effort involved re-indexing of records as well as mapping their service vocabulary to MedlinePlus topics. Each of these sites built their own database systems, and each continues to maintain their own local hardware and software.

Based on the experience of these two sites, it is clear that building a locally hosted system requires considerable effort. To assist those areas that do not have the resources or expertise to undertake a Go Local site, NLM developed a system hosted by NLM. The NLM system provides the hardware, vocabulary mapping, user interface, and technical infrastructure, leaving local areas free to concentrate on collecting and indexing local service information. Table 1 outlines Go Local responsibilities using the NLM or locally hosted model.

Table 1. Go Local Responsibilities

Area of Effort	NLM-hosted	Locally hosted
Web servers, content management system	NLM	Local
Services vocabulary management	NLM	Local
Map MedlinePlus to/from local vocabulary	NLM	Local
Geography, mapping, zip code lookup	NLM	Local
Reports and statistics	NLM	Local
Web accessibility, usability	NLM	Local
Search software	NLM	Local
Project manager	Local	Local
Collect, index, maintain local services information	Local	Local
Outreach and promotion	Local	Local
Customer service	Local	Local
Quarterly reports to NLM, RML	Local	Local

As this table clearly illustrates, using the NLM system has advantages for organizations that cannot or do not wish to expend much technical effort in developing a Go Local site.

A tour of the NLM-hosted system

The NLM-hosted Go Local input system is a web-based database application written in Flash. The input system lives on a server at NLM. The system allows local areas to modify templates to customize their area's header and banner, footer links, and colors, upload images, create the "About Us" page, provide contact information, and create a featured site for the homepage. These features allow local areas to "brand" their sites. Figure 1 shows some of the logos and headers of NLM-hosted Go Local participants.



Figure 1: Examples of Go Local Headers and Logos

The heart of the system is the site record module. Using a web-based form, selectors create records for local services. The records include information such as the site name, address, city,

state and zip. Optional information may include a web site URL, telephone number, languages spoken by the provider, and description of the resource. Figure 2 shows a typical record.

Name of Site *	Lockefield Village Health and Rehabilitation Center		
URL of Site	http://www.wishard.edu/lockefield.html	Enable URL?	<input checked="" type="checkbox"/>
Address 1 *	980 Indiana Avenue		
Address 2			
City *	Indianapolis		
State *	Indiana	Zip Code *	46202 - <input type="text"/>
	<input type="button" value="Duplicate Check"/>	<input type="button" value="Similar Check"/>	US Postal Service Zip Code Lookup
E-mail	<input type="text"/>	Display E-mail?	<input type="checkbox"/>
Phone #	(317) 269-0448		
Description	An extended care facility located adjacent to Wishard Memorial Hospital. Provides geriatric, intermediate, and skilled care along with physical, occupational and speech therapy, recreation and social work support, Alzheimer's unit and an adult day care center.		

Figure 2: Sample Site Record

The second part of the form allows the selector to choose the geographic area that the resource serves. Options include zip code, individual counties, or the entire go local area. The selector chooses whether a resource should display to the public in a third section.

The fourth section allows the selector to choose services and health topic lists under which the resource will display. Adding topic information is the most complex step in creating a record. NLM provides vocabulary mappings to help selectors associate service terms (healthcare providers, health facilities, and health programs and services) and health topics (diseases, conditions, wellness issues.) Figure 3 displays topic information from the same record as Figure 2 above.

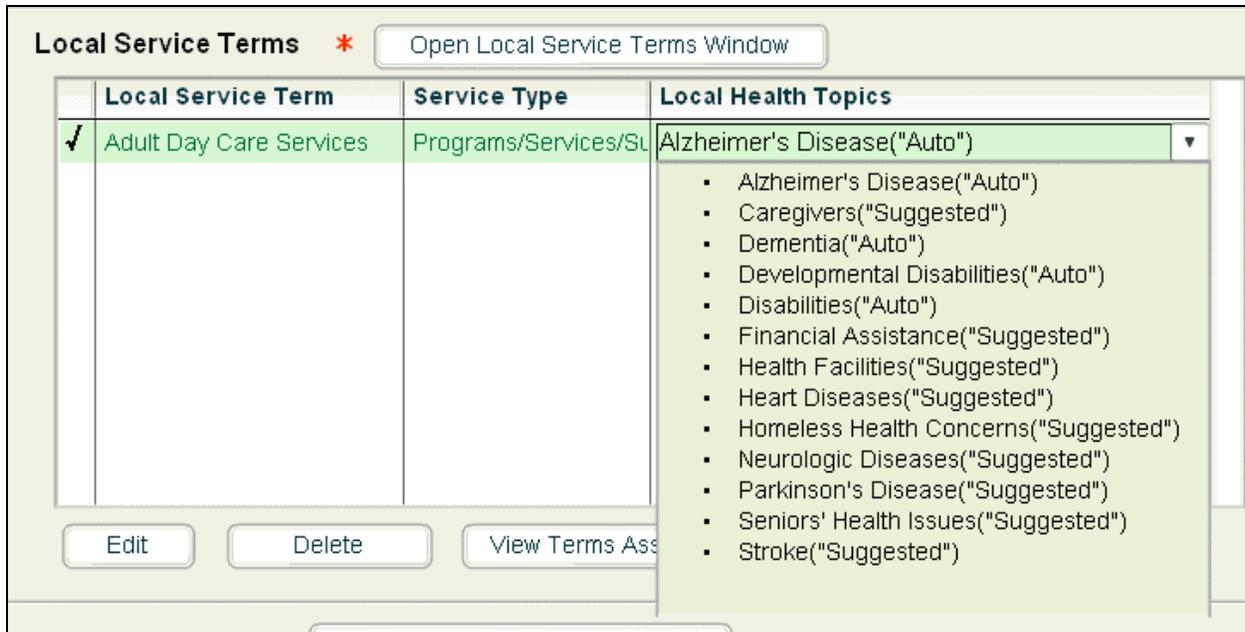


Figure 3: Service terms for a record, with associated health topics for the service term Adult Day Care Services

A preview module allows local participants to view their pages. This feature allows each area to see how records will appear to the public and to gauge its readiness for public release. Using the resource above, here are the steps to preview this record.

Step 1: Choose Internal Preview, Services by Providers, Facilities and Services.

A preview menu option allows users to drill down through their Go Local records in the same way that a consumer would on the public site. In Figure 4, the selector has chosen to preview services by providers, facilities and services.

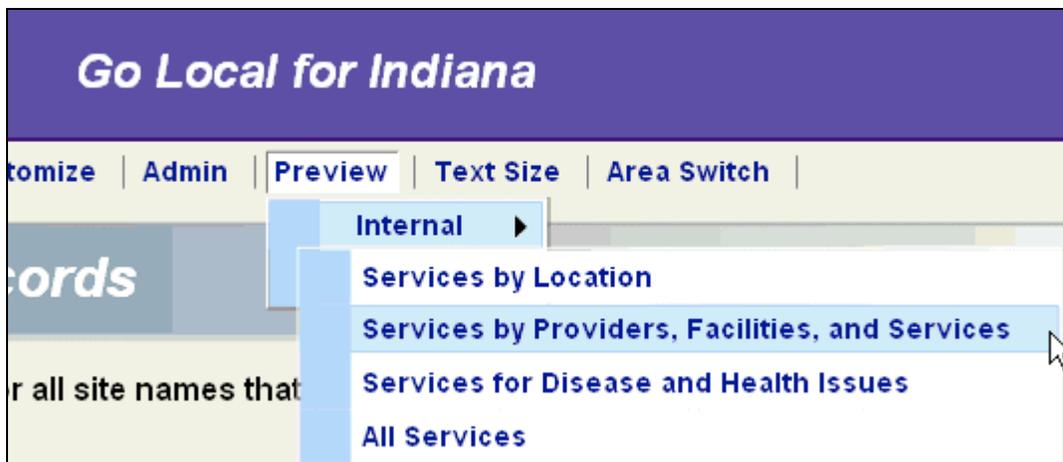


Figure 4: Choosing the Preview option

Step 2: Choose the specific service

The preview shows a list of the terms for health care providers, facilities and services. The selector chooses Adult Day Care Services.

The screenshot shows the INHealthConnect website interface. At the top, there is a blue header with the INHealthConnect logo and tagline 'Connecting to Indiana Health Services'. A search bar is located on the right side of the header. Below the header is a purple navigation bar with the 'go Local' logo and links for '< Homepage | About | Site Map | Contact Us'. The main content area is titled 'Health Care Providers, Facilities, and Services' and includes a brief instruction: 'Browse topics by first letter to locate a facility, health care provider, or programs and services relating to a specific disease or health issue.' A horizontal menu of letters from 1 to Z is provided for navigation. Below this menu, there are three main sections: '1', '2', and 'A'. The '1' section lists '12 Step Programs see [Support Groups](#)'. The '2' section lists '2-1-1 Information and Referral see [Referral Services](#)'. The 'A' section lists several items: 'AA see [Alcohol Abuse Programs](#)', '[Acupuncturists](#)', 'Adolescent Health Specialists see [Pediatricians](#)', 'Adult Congregate Facilities see [Assisted Living Facilities](#)', and '[Adult Day Care Services](#)'. The 'Adult Day Care Services' link is circled in red.

Figure 5: Choosing the service term to preview

Step 3: Choose within 10 miles of zip code 46202

In Figure 6, the selector types in the zip code to display. Other options are to select from the map or a list of counties and cities.

The screenshot shows the INHealthConnect website interface. At the top left is the IN logo. The header includes the text "INHealthConnect Connecting to Indiana Health Services" and a search bar. Below the header is a navigation bar with "MedlinePlus go Local" and links for "Homepage", "About", "Site Map", and "Contact Us". The main content area is titled "Adult Day Care Services by Location (Change Topic) for Indiana". A search bar is highlighted with a red circle, containing the text "Search by Zip Code: Show results within 10 miles of zip code 46202 Go". Below the search bar is a text box that reads: "Find Adult Day Care Services resources by clicking on the map or by selecting a county, or city." To the right of the text box is a map of Indiana counties, with labels for various counties including LAKE, PORTER, LA PORTE, ST. JOSEPH, ELKHART, LAGRANGE, STEUBEN, STARKE, MARSHALL, NOBLE, DEKALB, NEWTON, JASPER, PULASKI, FULTON, KOSCIUSKO, WHITLEY, ALLEN, WHITE, CASS, MIAMI, WABASH, HUNTINGTON, WELLS, ADAMS, BENTON, CARROLL, HOWARD, GRANT, BLACK-FORD, JAY, WARREN, TIPPECANOE, CLINTON, TIPTON, MONROE, ELKHART, and ROLPH.

Figure 6: Drilling down within a service geographically

Step 4: View page

The preview displays the page of Adult Day Care Services in the specified geographic area. The record for the Lockefield Village Health and Rehabilitation Center is on the page.

The screenshot shows the INHealthConnect website interface. At the top left is the IN logo. The header includes the text "INHealthConnect Connecting to Indiana Health Services" and a search bar with a "Go" button. Below the header is a navigation bar with links for "Homepage", "About", "Site Map", and "Contact Us", along with "E-mail to a Friend" and "Printer Friendly" options. The main content area is titled "Adult Day Care Services (Change Topic)" and shows results for "within 10 miles of zip code 46202 (Change Location)". Two results are listed:

- Catholic Social Services Central Indiana (Catholic Social Services)**
1400 N. Meridian Street
Indianapolis, IN 46202 -2367
(317) 236-1500
Description: Provides individual and family support, eldercare, crisis relief, and shelter to those in central Indiana.
▶ 0 miles from zip code 46202
- Lockefield Village Health and Rehabilitation Center (Wishard Health Services)**
980 Indiana Avenue
Indianapolis, IN 46202
(317) 269-0448
Description: Lockefield is an extended care facility located adjacent to Wishard Memorial Hospital. The facility provides geriatric, intermediate, and skilled care along with physical, occupational and speech therapy, recreation and social work support. The Alzheimer's unit includes four levels of progressive care. The Village also includes an adult day care center.

Figure 7: Information for Lockefield Village on Adult Day Care Services page

When a Go Local site determines that its service records have reached a critical mass to be truly useful to the public, it tests its site using scenarios developed by NLM. NLM also tests the site, as may the appropriate Regional Medical Library. Testing is an iterative process. When all parties are satisfied with the site, NLM makes the site available to the public, and, typically, the sponsor holds a launch event and creates press releases.

Participating in Go Local

Libraries and other groups interested in creating and maintaining a "Go Local" site for their state or region can submit a proposal. Go Local Participation Guidelines are available on the MedlinePlus web site (http://www.nlm.nih.gov/medlineplus/golocaldocs/Go_Local_Project-Proposal-Guidelines.doc). To help organizations with start-up costs for Go Local projects, NLM is providing one-time funding of up to \$25,000 per project through the National Network of Libraries of Medicine.

Currently there are twenty-seven Go Local participants with many more to be released in the future. Twenty-five of the sites use the NLM-hosted Go Local system. Using the NLM system

leaves local areas free to concentrate on collecting and indexing local service information. Several sites have published articles (<http://www.nlm.nih.gov/medlineplus/bibliography.html#Go%20Local>) about their experience with Go Local. NLM encourages librarians to take advantage of this opportunity to provide service information to their local communities.

References

1. Miller N, Tyler RJ, Backus JEB. MedlinePlus: The National Library of Medicine brings quality information to health consumers. *Library Trends*. 2004 Fall;53(2):375-88.
2. Hilligoss B, Silbajoris C. MedlinePlus goes local in NC: the development and implementation of NC Health Info. *Journal of Consumer Health on the Internet* 2004;8(4): 9-26.