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Touring Arkansas: A Statewide Project to Instruct Nurses and Patient Educators on Consumer Health Resources

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Abstract

This article follows up a pilot project to help educate local nurses and patient educators on freely available consumer health resources. The Outreach Coordinator and Clinical Librarian at an academic medical center created a one-hour in-person and online class with continuing education credit and an online guide. Nurses frequently act as patient educators at the bedside, and are therefore an important target for consumer health education. While nurses in an urban setting may have more access to educational opportunities, these opportunities are needed even more in rural settings. Librarians can obtain funding to travel and teach classes at rural community hospitals.

Keywords

consumer health; patient educators; nurses; outreach; rural; community hospitals

INTRODUCTION

This article follows a previously published article about a pilot project to help educate local nurses and patient educators on freely available consumer health resources (Blake & Jagers 2019). The Clinical Services and Outreach Librarians at an academic medical center created a one-hour in-person class that offered nursing, dietician, and patient educator continuing education units (CEU). The course was built in five parts with an overview of 10 resources:

- General Consumer Health Resources - MedlinePlus, healthfinder.gov
- Drugs & Supplements - Drug Information Portal, DailyMed, Pillbox
- Alternative & Complementary Medicine - National Center for Complementary and Integrative Health
- Genetics - Genetics Home Reference (GHR), GeneEd(now integrated into GHR)
- Evaluating Websites - Health on the Net Foundation, MedlinePlus Evaluating Internet Health Information

Suitability was determined by reviewing sites for accuracy, authority, bias, currency, and coverage. To accompany the class, an online guide was created which could be used to access the class materials, and could also be given as a resource to patients to access as needed. The course was well received by the pilot groups within the area. Since community outreach is not only an organizational goal, but a necessity in a mostly rural state, the librarians applied for funding to bring their course to smaller rural community hospitals statewide.

Arkansas is a state in need of library outreach efforts. Arkansas boasts 75 counties, but only 46 of these counties have a community hospital and the majority of these have under 100 beds (Cunningham 2010). Therefore, about 30% of Arkansas counties are without a medical center. Less than half of Arkansas community hospitals (45%) are located in rural areas of the state, which accounts for around 83% of the state (Miller & Knapp 2019). Only 13 of the 75 Arkansas counties are considered urban and the majority of these are focused around the two major metropolitan areas: Little Rock and Fayetteville. Many nurses work in rural areas without the benefit of the resources found at academic medical centers or even larger urban hospitals. While these rural community hospitals work together on many aspects of care, they do not have the funds to purchase large, curated consumer health/patient education materials. Due to these aspects, librarians at the University of Arkansas for Medical Sciences (UAMS) applied for funding through the National Network of Libraries of Medicine South Central Region (NNLM SCR), for which they are a designated Resource Library.

Through this funding mechanism, libraries and librarians have been able to connect with underrepresented and rural communities to bring technology and consumer health resources to remote areas. The NNLM SCR offers funding to members for projects specifically related to consumer health outreach projects. The librarians applied for a Consumer Health Outreach Grant to turn their pilot project into a state-wide effort. The goals of this award are to connect consumers to health information resources, increase awareness of National Library of Medicine (NLM) resources and services, promote health information literacy, and encourage partnerships between libraries and public venues. Preference of projects is given to rural or underserved populations. The NNLM SCR allotted \$25,000 in funding for the project (NNLM SCR 2018). The librarians received this award and began work to expand the project to rural and underserved areas of Arkansas. This project was submitted to the UAMS Institutional Review Board (IRB) as an expedited review since no personal information would be collected. The UAMS IRB approved the project under IRB #228494.

GETTING THE COURSE INTO RURAL ARKANSAS AND BEYOND

The original grant application called for the librarians to complete six trips to the four corners, delta, and mountain regions of Arkansas. On each trip, the librarians would visit and teach a course at four different hospitals. One class would be taught each morning and afternoon for two days with an overnight stay in between. This would allow the librarians to reach at least 24 of the 75 counties in Arkansas and about a third of the community hospitals. However, this idea was soon dismissed as impractical, mostly due to timing issues. Rural community hospitals, like most others, have nursing shift schedules set well in

advance and the hospitals in a single region were not likely to have availability during the same time period. Trips were still grouped together whenever possible for budgeting purposes.

Beginning in August 2018, the Clinical Librarian began to work on setting up classes by emailing organizational contacts within the five regions of the Arkansas Nurses Association (ARNA) and the state chapter of the Association of Pediatric Hematology/Oncology Nurses (APHON). Posters were placed on electronic billboards for various nursing and public health groups. Contact suggestions also came from UAMS Patient Educators, Patient- and Family-Centered Care, College of Public Health staff, and Patient Advisors. The librarians attended the annual meeting of the Arkansas Society of Public Health Educators (ArSOPHE) in October 2018 in hopes of making connections to set up further classes. After the first few months, only one response had been received from the Hem/Onc Nurses at Arkansas Children's Hospital in Little Rock, AR, for which a class was scheduled for December 2018.

Since emails were not working, librarians decided to try different tactics to reach the community hospitals they were interested in working with. Over the winter months of 2018–2019, changes were made. The Clinical Librarian began by compiling a list of every community hospital and major clinic in the state. The librarians were targeting rural areas so the two urban counties of Pulaski (Little Rock) and Benton (Fayetteville) were not included. Rural areas were more likely to have small community hospitals with limited funding and would be in greater need of freely available, reliable, and online patient education resources. All hospitals were then grouped into eight different regions. The Clinical Librarian would choose a region to call each week throughout November, January, and February. However, this task was deemed difficult due to there being a lack of any contact information for staff or senior administration online.

The Clinical Librarian began cold-calling rural Arkansas hospitals to ask if a free class with CEU attached could be brought to their corner of the state. While the right contact at some hospitals was never reached or did not return messages, a fair number of connections were made, and hospitals started setting up classes for Spring 2019. Twelve hospitals initially showed interest, but three eventually declined the class. One hospital was worried their nurses would be confused by additional patient education resources, another was simply not interested, and the third could only schedule a class outside the grant period.

Trips Around the State of Arkansas

The librarians traveled to six hospitals in the northern part of the state and three in the southern portion (see Figure 1). This included the towns of Harrison, Clarksville, Russellville, Magnolia, Crossett, Monticello, Batesville, Jonesboro, Pocahontas, and Little Rock. Most classes were taught in rural community hospitals with a handful of nurses at each location. The goal was to reach each region of the state with an emphasis on the rural areas. The northeast and north central parts of the state were well covered. While there was some outreach to the lower southeast corner/delta region, no classes were able to be scheduled in the central delta region. Only one class was scheduled in the southwest region of the state, and four in the northwest region (one in Benton County was later cancelled).

The best attendance for classes was found to be those scheduled at noon. Overall, it was difficult to find times that would work for the nurses. In several locations, there were nurses who registered but were unable to attend because they were called away for patient care or the hospital was short-staffed that day making class attendance difficult for everyone. Whenever possible, the librarians would offer the class at multiple times during the day to allow nurses more opportunity to attend when they were available. Not all hospitals could accommodate multiple class times however, and morning and afternoon classes were not well attended unless they were just before or just after change of shift. The class was taught in any available space as long as a projector and screen could be provided, which led to classes in a variety of conference rooms, offices, and break rooms (See Figure 2). Most hospitals were also able to provide a laptop, but a tablet which could connect using HDMI was purchased for use at those that could not provide one.

Creating Enduring Materials

There were many cases of nurses who wanted to attend but were unable due to meeting conflicts or patient care. Participants at each hospital inquired about online materials. This request, coupled with data obtained from the pilot, led the librarians to start construction of online self-paced module. The Outreach Coordinator started to build these enduring materials with the class presentation slides and handouts. Explanations and examples by the presenters and common questions asked by participants were added into the module. Annotated presentation slides, along with a number of screenshots, and walkthroughs of each resource were created. The enduring materials do not provide the same immersive and responsive experience as a face-to-face class, but it is more convenient for nurses and other health care professionals to access at anytime and anywhere.

After creating the enduring materials, the content was reviewed to make sure the format could be easily followed and contained the crucial information from the class. Based on the comments, minor format changes were also made to make the text easier to read. The online module was then submitted to the UAMS Continuing Education Department for approval of CNE credit. This required review by three experts, one of which needed to be a nurse; a public health professional and a librarian were also chosen. Once approval was acquired, the online module was posted on the UAMS continuing education website under Preparing Arkansas Nurses and Patient Educators to use Consumer Health Resources (Blake & Jagers 2019). Users can create a free login and then complete the module for one nursing CEU. The module will be available until April 23, 2022.

The module took longer than expected to create, review, and set up on the hosted site so it did not go live until near the end of the award period. The majority of classes had been taught at this point, and there was limited marketing that could be done. The main contact at each hospital received a link and instructions on completion of the module for any staff that could not attend the in-person classes. A total of 44 people clicked the link sent to the contacts with 17 people completing the course and receiving credit.

Presenting the Course and Guide at Nursing and Public Health Conferences

Part of the award funding included the librarians attending three conferences for the health professionals targeted. The librarians planned on doing oral or poster presentations at the conferences to further disseminate information about the consumer health course and guide. Both librarians had planned to attend the annual meeting of the Arkansas Nurses Association (ArNA), but unfortunately the ArNA meeting did not occur that year, so the librarians attended, presented, and exhibited at the ArSOPHE meeting instead.

The Outreach Coordinator attended the Society of Public Health Educators (SOPHE) annual conference and the Clinical Librarian attended the American Nurses Credentialing Center/American Nurses Association (ANCC/ANA) joint conference. While presentations were planned for both conferences, a delay in the grant review process caused the librarians to miss the submission times for both conferences. Despite this setback, the librarians found ways to disseminate their project at the conferences. The Clinical Librarian handed out bookmarks with links to the Arkansas Consumer Health Information Guide at ANCC/ANA while the Outreach Coordinator handed out flyers for the guide and discussed consumer health resources with conference attendees at SOPHE (See Figure 3).

The response was overwhelmingly positive. Many public health educators and nurses gave their thoughts on the continuation of the project and the most needed information. This feedback closely mirrored the responses from nurses taking the class. The Outreach Librarian was approached by a conference organizer at SOPHE with a request to submit a proposal on the project for the next year's conference. The organizer felt a presentation on consumer health resources that highlighted how to respond to patients and caregivers who have read questionable health information online would be well received. The librarians submitted a proposal which was accepted and will be presenting at the 2020 SOPHE Annual Conference in Atlanta, GA.

RESULTS

Class Evaluations and Feedback

The librarians taught 16 classes to 134 participants in 10 different locations during the grant funded period (July 2018-April 2019) and another 3 classes to 26 participants during the pilot. The majority of participants were nursing professionals with backgrounds ranging from Licensed Practical Nurses (LPN) to Doctor of Nursing Practice (DNP) training, but the majority were registered nurses (RN). In addition to the nurses and patient educators, the class was also attended by nurse residents/students, dietitians, pharmacists, case managers, and one physician. The class was originally created in the pilot for Patient Educators which, in Arkansas, is a position that can be filled by a professional with a Certified Health Education Specialist (CHES) or Nursing degree. However, the majority of community hospitals do not employ individuals to specifically handle patient education, and this work is frequently done by nurses.

The class was well received by all participants with many positive comments mixed in with suggestions for improvement. On average, each class improved by 20% between the pre-test and post-test (See Figure 4). These short tests aimed to measure knowledge of the existence

of certain resources, but also the types of information and tools found on these sites. All questions were multiple choice. Examples of questions included queries about which sites can be viewed in Spanish and English, which five things to keep in mind when evaluating a website, and which resource was the best choice for a given scenario.

As noted in Table 1, objectives for the class were met with an average of 4.7 out of 5 for all objectives over the 10 locations visited. Both course instructors received high marks as well with an average of 4.8 out of 5 on the evaluations. Instructor evaluations included questions related to conveying objectives, helping participants understand the subject matter, being responsive to questions, being knowledgeable, demonstrating enthusiasm, and treating participants with respect. Comments about the class were generally positive about both the instructors and content with some suggestions for improvement included. Example comments:

- The presentation had more information than I expected; I wasn't aware of the resources.
- I found the resources on genetics and explaining concepts at a lower level to be very interesting and helpful; genetics websites will help in school; med websites will help in the pharmacy I work at.
- The entire presentation provided information necessary for the day to day task of my role. - Thank you Ladies, Very informative.
- Showed good resources, showed how to evaluate sites, can empower patients.
- Made aware of resources available to patients and healthcare members; better able to refer patients to other resources; more informed parents.
- Love the whole thing. Awesome resources - knowledgeable presenters. - Great job, would love more examples in each section.

The Arkansas Consumer Health Information Guide was and continues to be well used. The guide was intended to be a complementary resource, but also to be used well beyond the time of the class presentations. All resources taught in the course were featured in the guide as well as additional resources on each topic, including both NLM and trusted organization sites. Statistics for the site show steady use during the development phase and early grant period (June-Feb 2018). The majority of classes were held in March 2018 which corresponds with a spike in guide use (See Figure 5). While guide usage decreased after this time period, it remained steady and began to increase again. Nearly six months after the grant period ended and with no additional classes being taught, the guide usage has remained high.

DISCUSSION

Nurses are a great target for consumer health information training. Classes designed to help nurses present patient education are in demand, but lack of time, high nursing to patient ratios, and low prioritization of nursing educational needs can make introducing these classes difficult. In a 2002 study, Marcum et al. found that patient education was a valuable part of nursing practice, but nurses expressed the need for supported educational time and

essential resources if they are to be held accountable for patient education. Nurses receive questions and present education frequently at the bedside but, without the right training and resources, they may not be able to sufficiently answer all these questions.

Being able to answer not only the specific medical questions of patients, but to also help provide consumer level information, can help enhance patient education and increase patient satisfaction (Muallem 2010). While some efforts in this area have been documented in the literature, these efforts were based in the librarian's own hospital. For example, in Muallem's article, she describes an intensive program of outreach to the hospital nurses including training sessions, online access through the library's homepage, and an online site developed specifically for patients and families (Muallem 2010). Muallem advocates that nurses need to know about consumer health resources for patient education just as much as they need to understand evidence-based practice (Muallem 2010). Medical librarians are equipped to fulfill patients' consumer health information needs, but few are in direct contact with patients. The outreach effort from the UAMS library allowed the authors to instruct rural nurses in Arkansas about reliable, online consumer health information. This included discussing consumer health websites and evaluation of health websites, especially as it concerns patients and their families bringing in information from unreliable sources. The nurses were ready to use what they learned in their everyday practice. The project may have had a greater impact due to its ability to reach rural locations that have limited educational opportunities.

Conclusion

Creation of enduring materials was a new experience for the librarians and has some room for improvement. The timeline for creation of such a project can be adjusted to allow the materials to be available by the time the courses are being taught. The enduring materials are also an opportunity to grow the project and bring more users to the Arkansas Consumer Health Information Guide. Starting the online course earlier and working more closely with the institutional continuing education department will help aid in better knowledge of the process and a smoother transition from one class type to another. This would allow the librarians to market the online course earlier, ideally while teaching the face-to-face version.

A network of nursing administrators and educators has been established through trial and error, and in future projects this network can be built on by calling more hospitals and having less reliance on emails to originally set up contacts. The nurses at each location were quick to mention that additional classes would be welcome. A future survey to nursing contacts of needed educational content that can be provided by librarians will be administered allowing the development of new courses and hopefully more award funding for outreach efforts. The success of this project allows the librarians to more effectively plan for future outreach projects to nurses and patient educators in the state.

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FIGURE 1.
Locations visited in Arkansas

FIGURE 2.
Teaching at Drew Memorial Hospital in Monticello, AR

FIGURE 3.
Example Bookmark Handed out at ANCC/ANA

FIGURE 4.
Pre- and Post-Test Scores by Location

FIGURE 5.
Usage Statistics for Arkansas Consumer Health Information Guide

TABLE 1.

Average of Evaluations for Class Objectives

Average of Evaluations for Class Objectives	
Identify a variety of authoritative consumer health information websites.	4.7/5
Navigate consumer health websites to find needed information.	4.7/5
Analyze consumer health websites for usability and authority.	4.7/5
Apply the knowledge and/or skills acquired to my work.	4.7/5