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Knowledge gaps among public librarians seeking vaccination information: A qualitative study

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Abstract

Public libraries have been called the “first responders” to the specialized health information needs of the general public. The challenges inherent in consumer health information (CHI) service are centered around the *Patron*, the *Librarian*, the *Information Resources*, and the *Library* itself. The pilot study involved interviews with nine individual library workers in eight public libraries in four library systems: the District of Columbia, Montgomery and Prince George’s Counties in Maryland, and Fairfax County in Virginia. Library workers were asked about common consumer health information requests, the nature of their collections, and the role of public libraries in meeting these information needs. The subjects were also presented with a hypothetical scenario, and their responses suggest knowledge gaps. The findings point to the increasing necessity and importance of training and support for public librarians, as well as the importance of understanding where the medical knowledge gaps exist. Public librarians need to commit to formal evaluation of their skill sets and knowledge gaps, in order to identify areas to which libraries can devote limited resources.

Introduction

Over the last decade, the Internet has been rising in prominence as a source of lay health information. The Pew Research Center’s Internet and American Life Project (Fox and Duggan) found that two-thirds of American adults in a sample of 3,000 use Internet for health information-seeking. Within this group, more than one-third use it to self-diagnose a problem; only about half of adults in the group follow-up by discussing the results with a physician (Kuehn 2013, 757). In another study, about half of participants in a sample of 559 reported online health information-seeking behavior. Of these, only a third were interested only in information about a specific illness. The majority sought either information related to both illness and maintaining wellness, or wellness-only information; common wellness

topics relating to exercise, diet, and parenting (Weaver et al. 2010, 1523-5). While online health information-seeking is common for the general population, it may be particularly important for individuals dealing with serious or chronic diseases and conditions (Lykins et al. 2008, 971-2; Navarro and Wilkins 2001). For example, the majority of breast cancer patients are active information seekers (Radina et al. 2011). Individuals with cancer often turn to the Internet when they are dissatisfied with the care they receive from their providers (Tustin 2010).

Lay health information seeking is related to some positive behavioral outcomes. For example, Ayers and Kronenfeld (2007) found that individuals sought health information more often on the Internet, the more likely they were to change their health behavior. In another study, the majority of lay individuals who actively sought health information reported that it changed how they approached maintaining their health (Tu and Cohen 2008). Active health information seeking was also shown to be related to better nutrition among cancer patients (Lewis et al. 2012) and greater adherence to therapy among HIV patients (Samal et al. 2011).

While the use of the Internet for health information seeking is extremely well-documented, offline resources are not. In fact, 47% of public library users who access the Internet at their library are online looking for health information (Zickuhr, Rainie and Purcell 2013). And the health information needs of these public library users are specific: One study found that 82% of public library users were logging on the Internet to learn about a disease or an illness (Becker 2010). We know, too, that from six to 20% of public library reference requests received by reference librarians, with and without computers as intermediaries, relate to health information (Thomas 2004). For all these reasons, public libraries have been called the “first responders” to the specialized health information needs of the general public (Dieterle and Becker 2011). The critical place of public libraries in the world of health information was re-emphasized in July 2013, when the American Library Association, in cooperation with OCLC, announced a campaign to involve public libraries in disseminating information about the Patient Protection and Affordable Care Act. (Institute for Museum and Library Services 2013).

In fact, the public library has been an important source for consumer health information for as long as there have been public libraries in America – see Smith (2008) for a historical review. However, it was the consumer movements of the 1970s that considerably accelerated the awareness of the public library as a resource. In one 10-year period from 1977 to 1987, *Library Journal* reported on the establishment of a health information helpline in Columbus, Ohio’s public library (“\$\$ to promote”; Sager) and Consumer Health Information Networks in Massachusetts (1977) (“Mass. health info network launched”, Philadelphia (1984) (“Consumer health info network”, Connecticut (“Connecticut’s HEALTHNET”), and Washington State (1986)(“Wash. Health Info project”). Today, health information is one of the top six types of government information that Americans seek at their public libraries (Rainie, Estabrook and Witt 2007). Public libraries were used as sites for providing consumer education about AIDS (Anderson 1990) and more recently about genetics (Harley 2011) as well as for general health information dissemination

(Malachowski 2011), particularly during times of natural disaster and other emergencies (Malizia and Vargas 2012).

Background

As important as public libraries are to the health information dissemination cycle, they are funded explicitly to be generalist institutions and aim to serve every citizen with every conceivable information need, from auto repair to gardening to the ethics of stem cell research. When that public information need relates to health, this presents challenges for a staff typically untrained in the nuances of health information work. While there have been several studies of the frequency of consumer health questions from the public and the types of health content being asked about (see Smith (2008) for a review], less attention has been paid in the last 20 years to the challenges inherent in answering these questions, particularly in public libraries. More typical, in the 21st century, is the researcher who chooses a particularly problematic aspect of consumer health information to illustrate larger general tensions. For example, Thompson and Thompson (2007) address “skeptical medical reference” focusing on alternative medicine collecting for the public library, and ask the provocative question: “Are [librarians] passive and uncritical dispensers of information or are they critical educators who help patrons choose the best information available?”

Smith has written that public librarians and health sciences librarians alike experience anxiety about consumer health information provision, because for both kinds of practitioners it means a change in the boundaries of their professional domains. The anxiety is historic; the particular problem for 21st-century librarianship in the age of the World Wide Web is that consumer health information is now everywhere and the demand has never been higher, but whether the information practitioner is located in a hospital library, an academic medical center library, a shopping mall or a public library, they need the expert medical librarian’s knowledge of health information resources coupled with as well as the expert public librarian’s customer service skills. (Smith 2008, 440-441).

The challenges inherent in consumer health information (CHI) service have been presented in the literature of librarianship for decades preceding the Internet. They relate to the *Patron*, in the *Librarian*, the *Information Resources*, and the *Library* itself. The American Library Association’s “RUSA (Reference and User Services Association) Guidelines for Medical, Legal and Business Resources” exist to address these long-recognized challenges and are referenced below.

Patron-centered challenges

The language in which health information is provided can pose a significant obstacle to people who do not understand medical terminology. The language thus becomes an access issue [RUSA Guideline 1.0.7]. In addition to health and health information literacy, technological literacy has also been identified by public librarians as a major barrier to assisting the very patrons who are most in need of assistance (Smith and Eschenfelder in press).

Librarian-centered challenges

Interpersonal communication of health information is potentially difficult for many people, and is fraught with peril for the librarian who has a professional commitment to information neutrality [RUSA Guideline 2.0]. The information professional wants and needs to observe boundaries around information that the patron views as her personal business, but may equally intensely want to share – or overshare. The resulting issues raised by M.S. Wood in her classic article (1991) have recurred in the literature for decades (see Smith and Eschenfelder in press for an example). Will the librarian be perceived as a social worker or counselor instead of a neutral provider of, a conduit to, information? Will the librarian who answers the question, or who directs the patron to shelves or sites that answer the question, be providing bad news? All this affects the librarian's ability to assist a patron in this domain. Finally, librarians engaged in consumer health are constantly challenged to remember that they are not themselves healthcare professionals and cannot engage with their patrons as if they were healthcare professionals. This is true despite the fact that the patrons may be in desperate need of assistance from a healthcare professional. It was noted in the classic article by Dewdney and Tiamiyu (1991) that consumer health questions—just like many health questions asked by healthcare professionals in clinical information settings—often occur in high-pressure, high-need, even patient care situations; answers must be found quickly, which again adds tension. [RUSA Guidelines 1.2, 1.3]

Information resource-centered challenges

When medical information is sought, if the information is to be useful and accurate, currency is often critical. Medical information that is wrong, old, or both is not merely unuseful, but can be actively dangerous; since both the librarian and the patron having the conversation are, on some level, aware of this, interactions around health can be particularly tense. [RUSA Guideline 2.1]

Library-centered challenges

This is a higher-level form of the information resource-centered challenge: the ability to meet the consumer health need on the local level when the best information may be located outside the building. In fact, the “best” product to answer the question accurately and in language the consumer can understand may not be on any public library shelves. This makes it important for the librarian to know the best information sources, including external sources, to which the patron can be referred. [RUSA Guideline 2.3]

Readiness of public librarians

The purpose of this pilot study was to investigate challenges of providing consumer health information in the public library setting. As Smith wrote (2011), no prior research had been published that addressed the specific training of public library workers in health information resources. How ready are public librarians for critical health information needs in a post-Web world? Interestingly, the most information about public librarians' readiness for consumer health questions comes from the methodology of “mystery shopping”, more formally known as “unobtrusive reference”. This methodology relies on a proxy or surrogate patron who is sent into a library to test library staff responses to an artificial question.

Weech and Goldenhor (1982) dated the first use of *unobtrusive* – that is, deceptive—librarian test questions to Terry Crowley’s doctoral dissertation (1968). Canadian researchers Harris, Henwood, Marshall and Burdett (2010) more recently used the same methodology to investigate the quality of telephone reference answers during Canada’s SARS outbreak. Flaherty and Luther (2011) investigated library collections as well as reference, and assessed the quality of upstate New York public librarian responses to pseudo-patrons interested in the purported connection between autism and vaccination. Flaherty and Luther’s work was the impetus for our own research.

Since no prior research had been published besides Smith’s, it was necessary to conduct individual interviews with public library workers to identify the challenges of this work. We were interested in how different types of factors –librarians’ training and attitudes, library settings and available resources, and patrons’ characteristics – enable or complicate public librarians’ role in facilitating patrons’ information access. Finally, we were also interested in characterizing health information resources that public libraries recommend to their patrons.

To explore these issues, we presented our librarian interviewees with two hypothetical scenarios: one involving a patron in search of “off-label” prescription drug coverage by Medicare Part D (question 9, Appendix A) and the other involving a young mother seeking autism information (question 11, Appendix A). The autism scenario is discussed in another article (in preparation); the Medicare scenario is discussed below.

Methods

Library identification

This pilot study involved interviews in eight public libraries in four library systems: the District of Columbia (2 libraries), Montgomery County (1 library) and Prince George’s County (4 libraries) in Maryland, and Fairfax County (1 library) in Virginia. The general region was chosen because of its proximity to the institution of one of the principal investigators.

A research coordinator contacted administrators in the four public library systems listed above, explaining the purpose and the methods of the study and sought permission to recruit librarians by sending letters to individual library directors. Library workers were compensated for their time with bookstore gift cards. Public library directors identified nine specific individuals whose duties included a lot of reference desk work; of those nine, eight were professional librarians (holding MLS degrees) and one was a paraprofessional library assistant with considerable reference experience. The authors felt that inclusion of this paraprofessional was justified since in an era of increasing budget slashing and decreasing reference desk activity, the deskilling of reference has been accelerating to the extent that a book has been published on paraprofessional reference training (Morgan 2009). For example, Smith (2011) interviewed 102 Wisconsin library workers and found that the two largest categories of jobs held by paraprofessionals were library director and reference positions.

These nine participants were chosen to represent the diversity of public library branches in the area. Library characteristics appear in Table 1, below. Library worker characteristics appear in Table 2.

Interview methods

The nine library workers participated in semi-structured interviews, conducted by the study coordinator. The interview guide (see Appendix A) consisted of core questions and some suggested probes. Both questions and probes were designed to elicit responses about interviewees' encounters with consumer health queries, their preferred health information resources in particular scenarios, their consumer health information training, and their health information seeking strategies.

Data analysis

Interview protocols were audio-recorded and transcribed for analysis. NVivo qualitative analysis software version 9.0 (QSR International, Sydney, Australia; qsrinternational.com) was used for coding. The coding scheme was adapted from that used in an earlier public library consumer health study conducted by Smith (2011), with additional codes emerging from the data.

Two authors (SH and AK) initially independently reviewed two interview protocols, applying the coding scheme from (Smith, 2011) and noting suggestions for new codes. The third author (CAS) then applied the resulting coding scheme to the same protocols. Disagreements were resolved through discussion. Finally, each of the authors coded three protocols using the final scheme, so that each protocol was coded by two authors. Smith and Keselman reviewed the coding for qualitative assessment of inter-coder agreement and deemed it acceptable; they also discussed and resolved any coding disagreements. NVivo was used to generate thematic clusters for analysis.

Results

Libraries differed in the size of their collections and staffing levels and in the socioeconomic characteristics of their communities. See Table 1 for library characteristics and Table 2 for librarian characteristics.

Patron-centered challenges

Common topics—We asked interview participants about common health information requests that patrons brought to them. In response, participants recalled a broad range of health topics, ranging from animal assisted therapy to vaccination. A few topics were mentioned by half or most of our subjects: Diabetes [Participants 2, 3, 4, 5, 6, 7]; Nutrition [Participants 1, 3, 5, 6]; Cancer [Participants 3, 4, 9]; and Heart disease [Participants 1, 3, 4]. Many questions were about specific diseases and conditions (e.g., ADHD, autism, celiac disease, eczema, HIV, SARS). A number pertained to children's health and health-related parenting issues (e.g., ADHD in kids, breastfeeding, learning disabilities, pregnancy, vaccination). Other emerging categories included alternative medicine (e.g., acupuncture,

chiropractic, herbs), specific medications, and access to healthcare (e.g., Medicare, finding doctors).

Our interview subjects often remembered consumer health questions triggered by media reports and publicity: they quoted patrons saying “I saw a book on TV and I want to know what it is”. Some questions were driven by visits to physicians: “They want to put me on a low-salt diet.” (Both quotes verbatim from Participant 8.) Participants 2 and 3 remembered questions coming from parents and people about to become parents, as well as from adult children. Participant 8 expressed the complexity of health questions when she commented:

“A grown daughter ... was trying to help her mother who was now needing diet help, but she had three different conditions that were kind of competing with one another. She needed low salt, something for diabetic, and I can’t remember the other condition. ... it was mind-boggling, like what you can you eat if you have all those three things in play?”

Patron skills and literacies—When describing patrons’ health queries and commenting on their own role in supporting them, participants often mentioned information literacy as the area where patrons needed support. Librarians felt that patrons’ insufficient information literacy may prevent them from finding relevant information or lead them to suboptimal sources (for example, because their searches are constructed badly).

In the words of one participant, “What the customer may do [is] type in “vaccines dangerous”[and then] they’ll get all websites about how vaccines are dangerous.” (Participant 5) Librarians also commented that lack of information literacy was a barrier to distinguishing between reliable and unreliable information. One participant (8) commented that “people assume that all websites are dot-com” Another (4) stated, “So one of the things that we do ... is help people distinguish between the many websites that they may find, which ones they should kind of believe and which ones not.”

In addition to information literacy issues, participants commented that some patrons also experienced barriers caused by insufficient traditional literacy (e.g., when dealing with materials at too-high readability level) and computer skills.

Librarian-centered challenges

Workplace training—While all but one of our interview subjects were professional librarians, i.e., people holding MLS degrees, some of our participants (3/9; 33%) had an awareness of training opportunities available to their workplace colleagues in consumer health information. Participant 9, the one paraprofessional in the group, felt that her library system was “pretty good” when it came to training in general. However, she indicated that these training sessions focused on use of business and law databases, and not medicine or nursing. Participant 2 admitted that there “might be” trainings of which her library was not taking advantage. Participant 8, however, spoke about the Maryland’s requirement that library associate degree holders have “their first 6 credits of library school” so in her opinion (and in ours) “it is a really good training program.” The Maryland Library Associate

Training program, through which these associates are educated, does include coursework on medical topics.

Graduate coursework—Other participants (3/9; 33%) spoke about graduate-level experiences with health information. Participant 19 first learned about PubMed in her general reference class in library school, while Participant 1 remembered covering “basic medical vocabulary, different types of diseases, history of medicine” and information resources in health. Participant 8 remembered an excellent medical reference class. Two of these participants commented that they knew there were more classes available to them than they took, but since they intended to focus on public librarianship, they did not take those classes. No participants remembered consumer health information as a specific topic or focus of their library school classes or of library associates’ degree training.

Postgraduate coursework—Four participants (44%) had taken some form of postgraduate training in health information. Some of these involved leaving the library-- “a couple of hours” workshop by Participant 1 at “NIH” (the National Institutes of Health, by which she probably meant the National Library of Medicine), while Participant 4 had taken numerous classes in PubMed, Medline and other databases at NLM. Participant 2 mentioned library-based in-service training done by librarians from Howard University’s Medical Library and NLM. Participant 8 remembered an excellent series focusing on “reference books and questions” which was sponsored by her county library system “many years ago”. Finally, Participant 8 also recalled that in response to increasing information for Medicare Part D, CVS employees visited the library – it was not clear from this interview if CVS reps were answering questions from librarians, patrons, or both. These interviews reminded us that the audience for library training definitely includes “students” from both sides of the reference desk. Participant 1 commented that since her library now offered computer classes in health information, “I’ve attended at least one of them to see what they offer.”

Anxiety about the librarian’s role—Our participants spoke about the need to avoid giving medical advice and the problem that this sometimes meant resisting patrons’ specific requests for advice.

“A lot of times we get people who trust the library and they want you to give them opinion on something. And we’re not qualified to do that.” (Participant 3) “We are not actual medical professionals so we cannot diagnose them. We do have to remind them that ... we can only try to get them as much information as possible.” (Participant 8)

Respecting confidentiality—Participants commented that one of the challenges of meeting patrons’ health information needs was in understanding those needs while simultaneously respecting patron’s privacy. One of the participants expressed this feeling in the following statement, “As you do the reference interview you always want to kind of get to the core of what they’re looking for, but on the other hand, you don’t want to make them feel uncomfortable.” (Participant 3)

Resource-centered

Our participants referred to a range of information resources they associated with consumer health questions (Interview question 1). These included people (“A friend that’s a medical librarian!” (Participant 6); voluntary health association websites (the American Diabetes Association, medical center websites (the Cleveland Clinic); and government websites (e.g., the FDA) Our interview subjects also obliquely referred to useful full-text generalist databases, called generically by the name of their vendor (InfoTrac and ProQuest). Only 2 library workers mentioned PubMed, almost certainly meaning Medline accessed via PubMed, but 5 of the 9 interviewed mentioned MedlinePlus. Four participants mentioned WebMD. One participant specifically referred to complementary and alternative practitioner sites: Dr Mercola.com and Dr. Firmin.com.

Interview subjects often commented on the general state of their public library’s “collections” (referring to both print resources and licensed commercial databases) – in some cases, as a positive; in other cases, as a barrier the librarian perceived, making it difficult to completely assist the person with the question. Specific print resources were mentioned by 2 participants. Participant 2 remembered “a book ... a resource guide from the government, about government health plans. “ Participant 8 may have been thinking of the same publication: “A booklet [about] what the choices are for federal workers.” Participant 5 made an interesting connection between collections and questions: “You can see in the stacks the number of books we have are almost in proportion to how often we get asked a question.”

Participant 8, at a different library, also alluded to the relationship between physical space and customer demand: “We have a lot of books on autism – unfortunately a big topic.” Participant 2 called her reference books “pretty good” and mentioned that her library had “quite a few” pertaining to drugs, interactions, etc.

The generalist nature of a public library’s reference collection was mentioned by 2 librarians as a reason they would refer some patrons outside the building: “[The] public library is not going to have quite the depth on certain topics, especially scientific topics” (Participant 1); We don’t have as many really specific things as a medical library, like the NLM” (Participant 2). For the same reason, Participant 1 added that the medical periodicals available at a public library were necessarily limited.

There was general awareness among our interviewees of the usefulness of subscription databases for consumer health and medical reference. We also heard an equal awareness that a public library could not provide access to everything: “We only have so many.” (Participant 2).

The challenge of keeping medical materials up to date in a public library setting were discussed by 3 participants. “Drug books will become very outdated within a couple of years,” reported Participant 1. “It’s better not to have anything .. than books with medications that are outdated. “ Participant 8 referred to collection guidelines for currency – and also to a general awareness of media reports; in her opinion, changing medical thinking

meant changes for her library collection. As she recalled: “If they have done research that aspirin is the worst thing to give heart patients, we would have to change all our books.”

Library-centered

The role of the public library—Librarian interviewees were asked about their views on the role of public libraries in consumer health information. These librarians responded very strongly in the affirmative that libraries had a vital role in the process: “This is the bread and butter of public library work,” said participant 5, while participant 8 added that “I think we will always be needed for health. ... it’s just that our jobs are changing because we have to keep up with the online sources and generations”.

Obviously, free Internet access was one reason that the library would continue to be vital (as pointed out by Participant 8).: More than this, however, the library’s identity as a trusted resource was important: “I think that people trust the library and they come to us and genuinely think that we’re going to help them” (3).

Our participants indicate that their patrons perceive them as trusted employees of trusted information institutions. In the words of Participant 7, “If [patrons] have a relationship with you, they’ll feel comfortable going to the library,” when not knowing where to get information. This particular relationship leads to the librarian’s role as an information literacy educator:

“Well one [role librarians play in providing health information] is information literacy for people... [Patrons] want information that is reliable, ... that’s why people come to public libraries. It’s free and it’s something that usually a librarian can find a little faster than people just googling it or going on Wikipedia.” [5]

Commenting on the role of librarians in the age of Google, Participant 8 said, “Some people are concerned that libraries or librarians will be obsolete ..., but ...the Internet is crazy it’s going to have vast amounts of information that are wrong, and scams, and incorrect, basically crazy stuff” [8] This participant also described situations when patrons report not being able to find something online, “Then I go in and am able to find something.”

One interesting perspective on the role of the public library came from participants 5 and 6, who described situations where they helped patrons access health *care* –related information that was personal and specific to them. For example, Participant 5 helped people with their medical records:

“Sometimes patients or customers are given a CD-ROM of ... their chart. And some, especially older patients, ... don’t even have a cd player.... At the library at least, we can print it out.”

But librarians have an important function as adjuncts, unacknowledged but important, to the healthcare professionals who does not have time for patient education. Participant 7 explained that “people have general questions and they might be afraid asking their providers” while participant 6 spoke of patients reluctant to engage:

“Many times, I know myself included, when people [talk to doctors], they just listen to the doctor and say ‘yes doctor’ and really sometimes don’t understand what it is and need more background.”

Participant 8 commented that “Your time with the doctors are very rushed, and most people have a lot more questions than can be answered in their time with their person, or they think of it later”. It is those questions, participant 8 elaborated, that bring them to the library.

What do librarians need?

We asked our librarian interviewees what challenges they saw for public libraries trying to fill this important role in the lives of the public. These librarians saw the biggest challenges as centering on resources and budgets.

Participant 6 thought that takeaways in print were less available than they used to be: “I think brochures that address each individual thing would help out a lot. There used to be a lot more available in print that we could give to people and now a days there’s not. I find that I print out a lot of things and give to people instead.”

Participant 8 saw a more general problem:

“Really in the public library we try to support everyone from K through upper age levels. We even have information about burials for funerals. But we just don’t have as much as a university or the library of medicine. [If we could afford] to get the different medical journals ... but they are really pricey. Most universities have them because they budget for that. If we get a question once or twice a year we cannot justify the journal that cost \$150 for an issue.”

Participant 9, the paraprofessional library worker, had a different take on “challenges.” She explained that the more specific the information need was to the immediate life of the patient, the less public libraries could meet these needs through their traditional patron education methods:

“I have tried [conducting health information workshops] before, they’re not very successful. We don’t have a good turn out. And the reason for that is, I think that if you belong to Kaiser or whatever group you belong to for your medicine, they usually have workshops that are tailored for different things and that’s where you will go.”

She continued, however, that “basic” information, as opposed to customized workshops intended for particular kinds of people, “They do come to us. They know that they can get information that they can trust. So, we do play a role in that sense.”

An illustrative scenario

To understand better how our interview subjects negotiated consumer health information questions, we presented each with an identical difficult scenario (Question 9, Appendix A).

The scenario was presented in this way:

““I would like to talk to you about patrons’ questions related to Medicare Part D (Medicare Prescription Drug Coverage). Public libraries are one of the few places mentioned explicitly in the Part D legislation as being valid sources of information about Medicare prescription drug coverage. Have you received information requests about Medicare Part D?

Let’s say a patron came to you with questions about Medicare Part D. She wants to know if a particular drug is covered for ‘off-label’ use, because Medicare Part D will only pay for it if it’s covered. How would you help that person?

“Off-label” is defined by the MerriamWebster medical dictionary as: “of, relating to, or being an approved drug legally prescribed or a medical device legally used by a physician for a purpose (as the treatment of children or of a certain disease or condition) for which it has not been specifically approved (as by the United States Food and Drug Administration).” (Merriam Webster Medical Dictionary).

What our participants may or may not have realized was that this is a particularly vexing information problem. *Off-label* use of *noncancer* drugs is only covered by Medicare Part D if the off-label use prescribed is found in one of three specific drug compendia specified in the Medicare Part D legislation (“H.R. 1055--112th Congress: Part D Off-Label Prescription Parity Act”). These three drug compendia are the American Hospital Formulary Service Drug Information (AHFS-DI), the U.S. Pharmacopeia’s National Formulary (USP-NF), and the DRUGDEX Information System.

The Center for Medicare Advocacy (CMA) describes access to any of these approved compendia as a significant problem for the general public. It is unrealistic to expect individual citizens to have access to these three specific resources; in 2010, the cheapest of the three compendia (AHFS-DI) cost \$279, USP-NF \$820, and DRUGDEX \$6000 to individuals. To understand how difficult these resources were to obtain, CMA researchers surveyed a small sample of academic medical center libraries as well as their public library counterparts in the same geographic area. Even in the specialist libraries “few” had copies of all three compendia, “some” had lapsed subscriptions and “some” had out-of-date editions. In fact, even the National Library of Medicine itself did not possess all three compendia. This leaves the public library and its interlibrary loan (ILL) services as the citizen’s final recourse, which the CMA describes thus in language of which any librarian would approve:

Attempting to access the compendia through a library creates multiple hurdles. The first hurdle involves library access. A beneficiary may have to invest considerable time and effort to get to the library. Beneficiaries without access to computers would need to make sure they could receive printed rather than digital copies of the requested materials. The second hurdle involves currency of materials. A beneficiary who utilizes a library system cannot always be assured that the compendia are the most current or that the monographs provided are the only ones that discuss a particular drug. The third hurdle involves timing. The information may not be available quickly enough for a beneficiary who needs a monograph to support an expedited request or appeal in order to receive prescribed medication. The last hurdle involves comprehension. The beneficiary may not have enough knowledge or understanding about the compendia to frame an ILL request that will

produce the information needed. If a monograph is obtained through ILL or through other sources, the beneficiary may not be able to understand the information provided. (Center for Medicare Advocacy).

This makes a question about off-label coverage for Medicare Part D a very difficult reference question to answer, and one that is not easily solved by Web access—even by a trained librarian.

It is interesting to contrast the responses of Participants 2 and 8 to this deceptively difficult scenario. These two women were in the same age range but working in two different libraries, one central, one a branch, in two different counties. Participant 2 reported first that she knew people had asked about Medicare Part D, but then reversed herself a few minutes later by saying she couldn't remember any specific requests. She was also careful to state, even to the interviewer presenting her with a hypothetical situation, that "we don't provide specific information". Participant 8, on the other hand, was able to respond not only with an affirmation that she would help this patron, but had a specific strategy in mind: She would look up different plans the patron was considering; look up the drug and its different names and "go on the drug page with her" (specific "drug page" not specified).

Seven (78%) participants were able to be somewhat specific about where they would look for information to help this patron. Participant 2 would "probably refer [the patron] to the Medicare website". When the interviewer followed up and asked if the interviewee knew anything about the site, the subject was more vague: "I would just know where to find it and give them that information." Participants 1, 5, 6, 7 and 9 all agreed that "the Medicare website" was the best place to go. However, Participant 3 said she'd search for "the appropriate government website" and then pointed to the Office of Senior Services for her community.

Two participants (22%) had only very general ideas about how they would handle this reference situation. Participant 7, who later mentioned the Medicare site, said that she would use the "Google search engine and see what comes up and see if it's a valid source." Participant 8 would go to "different websites to compare and contrast what is available."

Finally, two subjects talked not only about going online, but about referring the patron, or calling, appropriate offices in search of the answer. Participant 8 said she'd "try to get them some contact people to talk to". Paraprofessional participant 9 would "call the social security office or wherever it is they handle those things".

Discussion

Four themes emerge from the small qualitative study, which are worth exploring in detail.

1. *The public brings consumer health questions to public libraries.* The librarians we interviewed report on consumer health questions, and perceive that their patrons who ask these questions need support at all levels of literacy: health information literacy (where to look?); information literacy (what sources to trust?) and general literacy (how to understand what they read?)

2. *The public library is a trusted source of information, and the librarians who work there are also trusted.* Our librarian interviewees perceive that this makes their role in supporting acquisition of health information even more important in a world full of potential information sources.
3. *Finding authoritative health information presents a challenge for public librarians.* Librarians can not take on the health care provider role; they do not want to be seen as giving medical advice. In addition, they recognize that information necessary to answer consumers' questions needs to be current and maintained to stay up-to-date, which makes these resources particularly challenging to work with. Our subjects seemed to express a marked preference for print sources over digital sources. This may be a characteristic of these professional librarians themselves or may relate to the clientele they serve, who may be expressing preference for print in their interactions with the professionals; more research is needed on this point.
4. *Public libraries have limits.* Librarians perceive that since their health information resources are limited, the ability of the librarian to help is also limited.

How are public librarians made ready to work with providing consumer health information to patrons? This was an well-prepared small sample of public librarians in comparison to those that Smith found in her much larger study of Wisconsin library workers (2011). They came into their workplaces from graduate programs. One-third of our subjects had taken a class in library school which focused on medical reference or medical database searching. Most significant, no participants remembered consumer health information as a specific topic or focus of their library school classes, or of their colleague library associates' training. Two participants commented that they knew there were more classes available to them in library school than they took. Since they intended to focus on public librarianship, and did not see medically focused courses as immediately relevant to them, they did not take those classes.

Almost all of our subjects were professionals, and they described postgraduate opportunities available to them as in-service education. Half of our interviewees had been sent to in-house or outside classes to help them with consumer health information work. Again, this was a much higher proportion of formally trained librarians than Smith found in her larger Wisconsin study (2011) and certainly relates directly to the presence of the National Library of Medicine in these librarians' "back yards".

However, even with the training and education these librarians possessed, their knowledge, as demonstrated in the Medicare Part D scenario, was far from complete. The idea that off-label use is a different issue than prescribed use, for example, never occurred to any of our participants, although "off-label" was clearly mentioned as a key piece of the scenario; one mentioned Googling it. "The Medicare site" was considered the best place to go, but in fact a search for "off-label" at www.medicare.gov produces no results, as does a search for any of the names of the three compendia specifically stated by the Medicare Part legislation. The Medicare website makes a drug look-up available for citizens investigating specific Part D plans, but it does not offer information about *potentially* covered uses of the drug, only a statement that the drug is or is not covered *by a particular plan*. In the authors' opinion, the

best answers to this question were given by the librarians who suggested contacting a specific office, such as Senior Services. For particularly challenging information problems, a human being may in fact still be the best resource.

Limitations

This was a pilot study involving a small number of public library workers, almost all of whom were professionals. The authors can make no claim about the generalizability of these findings. In addition, our interviewees were presented with a hypothetical patron situation and not an actual patron or even a pseudo-patron such as that created by Flaherty and Luther. In an actual interaction with a worried mother, our library workers might have reacted differently to the expressed information need.

Conclusion

Public library-centered health initiatives typically involve partnerships between medical librarians and public libraries, and many do involve training; many of these partnerships have been funded by the National Library of Medicine (for a review, see Kaiser and Murray; for NLM-specific initiatives, see Ruffin). The Medical Library Association's Consumer Health certification is another expression of cross-library-type partnerships. So the fact that training happens is no surprise. But what do public librarians know? The answer is that we have little research with which to answer the question. Rather, the focus of most research has been on those elements of promotion and outreach to different communities, including other library types, by medical librarians: what works, and what doesn't. For example, Carter and Wallace describe a collaboration between an academic medical center library in Tennessee and the public librarians and public health workers trained for consumer health information services. They describe the mechanics of training and the feedback from satisfied public librarians.

The findings from this study point to the necessity and the importance not just of training and supporting public librarians in health information provision, but to research that allows us to understand the knowledge gaps identified by this small study. Smith (2011) found very low awareness of core and central health information resources in this population.

Medical librarians need to persist in their outreach to their public library counterparts for the good of the patrons they all serve. More than this, medical and public librarians need to commit to formal evaluation of their skill sets and knowledge gaps, so that we know where best to devote our limited resources.

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Appendix A

#	Question
1	<p>When you have a medical question, where's your favorite place to look for an answer? That might be the Web, that might be a book ... it's up to you!</p> <p><i>Probes:</i></p> <ul style="list-style-type: none"> → Websites? → Print sources? → Agencies? → MedlinePlus?
2	I need to begin by thanking you for taking the time to talk to us – we think that it's really important to know what working librarians are doing out there in their libraries. I'm not sure if you saw the letter we sent to your director, recruiting people for this study? Well, we described this study as a "health information literacy" research project.
3	How long have you been working for this library? Have you worked at other libraries before this one?
4	<p>Do you get many questions from people who need health information? What kind of health information requests are the common ones?</p> <p>→Probe if they are unclear Can you remember the last one you got?</p>
5	We'd like to hear about what you think are the challenges of this kind of question.
6	When you get a health-related question that you can't answer for some reason, do you have a favorite place that you would send patrons for help? A website, a community agency...???
7	<p>For MLS-holding professionals only: Did you ever take any courses in library school that focused for even a small part of the class on health information?</p> <p>→YES Probe Tell me more about that ... [<i>Name of course, anything about the textbook, readings, assignments... anything that the subject remembers about the class</i>]</p> <p>→NO Probe Why do you think there weren't any courses or classwork on this topic? Any ideas?</p>
8	<p>For all subjects: Have you participated in any kind of training, workshops, CE, etc. through a library workplace that was intended to help you deal with health-related questions?</p> <p>→YES Probe Tell me more about that ... [<i>type of experience, regularly offered? Irregularly offered? Open to whom? Who did the training? What did you like or dislike about this opportunity?</i>]</p> <p>→NO Probe I'm interested – do you think there are training opportunities out there, but your library isn't taking advantage of them?</p>
9	<p>I would like to talk to you about patrons' questions related to Medicare Part D (Medicare Prescription Drug Coverage). Public libraries are one of the few places mentioned explicitly in the Part D legislation as being valid sources of information about Medicare prescription drug coverage. Have you received information requests about Medicare Part D?</p> <p>Let's say a patron came to you with questions about Medicare Part D. She wants to know if a particular drug is covered for 'off-label' use, because Medicare Part D will only pay for it if it's covered. How would you help that person?</p>
10	<p>We're interested in your own views about one kind of health information, which is about vaccination. It would be very helpful if you could fill out the following short questionnaire. (<i>Offer short questionnaire here</i>); Could you please talk a bit about each of your answers.</p> <p>Do you think that libraries and librarians have a role to play in helping people who need health information? What do you think that role is?</p>
11	Imagine that a patron, a young mother, approached you because she was concerned that vaccinations may cause autism. She is looking for information. What resources would you suggest to her and why?
12	We'd like to hear about what you think are the challenges of this kind of question.
13	Have you received information requests from parents looking for health information for their children? Have any of them been about vaccination?
14	<p>What resources would help libraries address these questions better?</p> <p>I'd like to thank you for helping us with this study. Your feedback is going to be very useful to us. Do you have any questions about me, the study, anything at all?</p> <p>Then I'd like to leave you with this little token of our thanks ...</p>

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Table 1

Library characteristics

Subject	Central /branch library	State	Legal Service Area Population ¹	Community median household income ²	Public Library Terminals [*]	Number of branch libraries [*]	Total adult circulation per capita [*]	MLS librarians as % of total staff [*]
1	C	DC	601,723	61,835	679	24	4.51	28.3%
2	B	VA	136,732	82, 899	79	5	8.62	34.6
3	C	VA				Same library as Subject 2		
4	B	MD	930,813	71,986	472	21	13.01	30.1%
5	B	MD	834,560	66,235	459	1	5.08	25.9
6	B	MD	834,560	64,664	459	1	5.08	25.9
7	B	DC	601,723	61,835	679	24	4.51	28.3%
8	B	MD	834,560	61,854	459	1	5.08	25.9
9	B	MD	834,560	43,150	459	1	5.08	25.9

* Note: Only system-level data available for these attributes.

¹ Data source: Institute of Museum and Library Services. Public Library Survey, Fiscal Year 2010. Available online: http://www.ims.gov/research/public_libraries_in_the_united_states_survey.aspx. Accessed: April 15, 2013.

² Data source: U.S. Census, 2007-2011 American Community Survey 5-Year Estimates. Available online: http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?_af=ACS_11_5YR_DP03. Accessed: April 15, 2013.

Table 2

Librarian characteristics

Subject	Age range	Gender	Racial/ Ethnic Background	College Major Field of Study	Graduate School Major Field of Study	Consumer health training through library
1	60+	Female	White	Education	Library Science	Yes
2	50-59	Female	White	<i>not provided</i>	Library Science	No
3	33-40	Female	White	History	Library Science; Public Administration	No
4	50-59	Female	African American	General studies	Library Science	No
5	33-40	Male	White	Geography/Sociology	Library Science	No
6	50-59	Female	African American	Journalism	Library Science	No
7	33-40	Male	African American	Psychology	African Studies; Library Science	Yes
8	50-59	Female	White	Sociology Leisure Studies	Library Science	No
9	25-32	Female	Hispanic	Studio Arts	N/A	No