Finding the Grey Literature in the Health Sciences

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Question:

The author investigated the use of grey literature in the health sciences. Specifically, which search methodologies and sources are being used to find grey literature, which groups are looking for it most and what types of materials they are looking for.

Design:

The study began with a literature review of the topic in which 39 research papers and reviews were examined. Following the review, five interviews were conducted with both information and health professionals working in the health sciences. The aim of the interviews was to find answers to the original research questions as well as to confirm, refute and close informational gaps found in the literature review.

Setting:

The study was based at the University of Western Ontario, Faculty of Information and Media Studies. Interviews took place with participants from across Ontario.

Participants:

The participants were selected based on their professional experience searching for and using grey literature within health science disciplines. Selection was made in an attempt

to include both information professionals as well as researchers. Those working in nursing research and specifically public health were identified as important for inclusion in the study. This was based on the information obtained through the literature search, which identified public health as a discipline where the location and utilization of grey literature is both widespread and essential.

Five participants were interviewed.

Three of the participants are librarians with MLIS degrees, two work in hospital libraries and one is employed in an academic health sciences library.

Also interviewed was a member of the nursing faculty at an Ontario University with a joint appointment at a local health department where his/her work includes research, program planning, and program evaluation.

The fifth participant is a researcher with an MScN degree doing research in the area of grey literature and public health.

Results/Conclusion:

Grey literature was found to be most important for two groups: those working in public health and those conducting meta-analyses or systematic reviews. There is a consensus that despite the improvements in access, which have been made with the advent of the Internet, grey literature remains difficult to locate. No clear search methodologies for finding grey literature were identified. Methods of information seeking for grey literature were recognized in three categories: Searcher Knowledge, Web Searching and Personal Contact. Recommendations for improving access to grey literature related to the health

sciences included: the option to receive potentially useful information via various electronic formats, the establishment of a Canadian database for grey literature and a campaign for heightened awareness amongst grey literature producers about the accessibility of their materials.

INTRODUCTION

Grey literature exists in all disciplines; however its place within the health sciences has not been researched in an extensive way. Although it is apparent that grey literature has significance within various health sciences disciplines, it is additionally important to understand whom it is important to, why it is important, and how it is located. In order to better understand the role of grey literature within the health sciences a literature search was undertaken followed by a set of five interviews. The literature search provided a significant amount of background information, which needed to be confirmed and applied to more specific situations. To this end, interviews were conducted with professionals who have experience with grey literature in their various health sciences disciplines.

Both the literature review and the interviews were carried out with a number of questions guiding the research. These questions included: "How is grey literature defined?", "Which groups within the health sciences are most interested in grey literature?", "What types of grey literature is it most important to find?", "How do people go about finding it?", "Are there things which could be done to facilitate the discovery of important grey items?" In addition to uncovering answers to these questions, new questions arose and have prompted thought for areas of further research.

LITERATURE REVIEW

Subject based databases were searched in addition to library and information science

databases. This included: MEDLINE, CINAHL, EMBASE, Library Literature, LISA,

LISTA, and *Google Scholar*. Of the papers, which were evaluated, 39 were considered to

be appropriate for inclusion in the review.

Defining Grey Literature

During the literature review, a standard and widely used definition for grey literature was

identified. Even those papers which did not explicitly use this definition, described grey

literature in a way which is consistent with this definition. Now referred to as the

Luxembourg Convention on Grey Literature, this definition was established in November

1997 at the 3rd International Conference on Grey Literature, and is as follows:

> "that which is produced on all levels of government, academics, business, and
>
> industry in print and electronic formats but which is not controlled by commercial
>
> publishers" (1).

This definition seems to have at its core, the concept that grey literature consists of those

materials, which are not commercially controlled. Both the sources and formats of the

materials may vary drastically. However, the material produced by governments,

organizations and associations tends to be most significant as will be discussed later (see

Interviews).

With respect to the formats in which grey literature may appear, electronic documents, which are made available via the Internet, are widely consulted. This however can lead to some confusion in determining what constitutes grey literature. As one author asks, "isn't the Web just a huge pile of grey literature" (2)? The answer to that question is not black and white. The web is a vast collection of grey literature; however, it is also a portal to information, which is in fact controlled by commercial publishers and not within the definition of grey literature. This is often referred to as the deep web or the invisible web. It has also been described as fugitive or ephemeral. This poses challenges for patrons and librarians alike. Julia Gelfand provides a quotation in her article on locating grey literature which acknowledges this confusion, "Considerable confusion obscures the line that separates grey from the other literature, particularly when it comes to the notion of being published" (3).

Examples of Grey Literature

According to the papers reviewed, the types of materials often considered to be grey include the following: student theses and dissertations, government documents, reports (private & public), conference proceedings, technical reports, preprints, working papers, audio/video recordings, research proposals, tests, standards, newsletters, pamphlets, correspondence and policy briefs (4-8). The interview component of this study provided an opportunity to determine which of these material types are most useful for those working and doing research in the health sciences and why.

Collection Development

With much of the literature available about the collection of grey literature being written from the perspective of academic librarians, the interviews provided a chance to fill in the gaps from the literature, offering an opportunity to discuss collection development policies with those working in special libraries. For those articles, which covered collection development policies for grey literature in academic libraries, the role of the subject or liaison librarian was highlighted.

In her 2004 article, Gretta Siegel acknowledges the difficulty subject librarians have in determining what constitutes grey literature and which grey materials should be collected (9). She also discusses the reluctance of librarians in collecting grey because of the additional work it creates. Siegel has a very positive outlook on the role of grey literature perceiving it not as a difficulty, but rather as an opportunity to engage with a broader spectrum of literature. She concludes that it should be part of one's collection development duties to maintain awareness of any reports produced by [the various] units on campus and to collect and index them.

Pat Sulouff et al. discuss the role subject librarians can take in the collection of grey literature as well (8). They acknowledge that subject librarians often know about grey, but not necessarily about what specific groups on campus want/need. In their study they were able to determine what types of grey literature various faculties on campus use the most and subsequently, subject librarians could begin to ensure they are providing access to these materials wherever possible. The academic librarian interviewed as part of this

study indicated that subject librarians do play a role in collecting grey materials for their discipline. However, it may not be done as extensively as Siegel and Sulouff et al. propose.

With regards to collection development policies around grey literature the authors whose papers were reviewed for this study concluded that "the amount of digital grey literature challenges the library's ability to consistently collect information using traditional tests and tools" (8). As the widely accepted definition of grey literature includes such a broad range of information, librarians are conflicted about how to include grey literature in their collection development policies to address such a large amount of potentially relevant information. Subsequently, there is a wide disparity between the approaches of libraries in managing grey literature within their collection policies. Many librarians indicate that "their collection policies do not specifically address grey materials, and that they do not systematically collect grey items" (10). The lack of collection policies for grey literature perpetuates the difficulty both patrons and librarians have in locating it.

To sum up issues of collection development a quote from Siegel is appropriate, "All grey literature is not worth collecting, but much that is worth collecting is still falling through the cracks of standard library acquisition practice." The literature suggests that librarians can play a role in creating access to grey literature by determining what their patrons need, developing collection policies that reflect this need, and taking an active role in establishing institutional repositories for the grey literature. The interviews conducted for

this study provided an opportunity to find out whether the recommendations made in the literature were practical for the information professionals working in the health sciences.

Accessing Grey Literature

In the health sciences, researchers and practitioners attempt to access grey literature for a variety of different reasons. What is similar amongst all of those people attempting to access grey literature is that they require a method for doing so. The question then becomes, how is grey literature being accessed and what are the issues hindering access to grey literature in the health sciences?

As one author writes, grey is especially difficult to access because it "exists in a fluid environment" (6). Additionally, it is often intended for a very specific audience and "widespread dissemination of information" is not the main objective for the producers of the content" (6). It is also very difficult for libraries to manage because there is no standard format and once acquired, it often requires library's to undertake original, time-consuming cataloguing. "Ideally there would be a centralized authority that would store and distribute grey literature", however this isn't the case and searchers must be creative in their approach (6). Just how librarians are accessing grey literature and evidence of any existing search methodologies was not apparent in the literature. This information gap was filled to some degree by the information gathered during the interviews for this study. As Haig points out, and as those who were interviewed confirmed, a creative approach is necessary.

There are a number of directories, which list sources of grey literature. One of the most heavily cited for health sciences is the *New York Academy of Medicine's Grey Literature Report* and their catalogue search. Unfortunately, this and many of the other directories are not Canadian in scope. Government and professional organizations' websites can also be searched for reports, policies, press releases and communiqués. For the health sciences in Canada, frequently referenced sites for the federal and provincial government are Health Canada www.hc-sc.gc.ca, the provincial Ministries of Health, e.g. Ontario Ministry of Health www.health.gov.on.ca, as well as the websites of well-respected charitable organizations who may carry out their own research, e.g. Canadian Cancer Society www.cancer.ca. For searching conference proceedings there are some subscription databases/indexes available, e.g. Conference Papers Index.

Web search engines are also a source for accessing grey literature "as they can find evidence that is not located anywhere else" (6). Web searching is recommended as part of a comprehensive literature searches and meta-analysis in medicine and nursing. Vicki Conn writes, "WWW searching is valuable for locating studies in progress or recently completed that are not yet published, presentations at conferences, and researchers who might be contacted for other studies" (5). Using a web search engine can help a researcher find clues which may lead to valuable information. However, there is still a fear that grey literature found through web searching "has to be confused with an uncountable number of more or less worthless or at least 'dubious' papers" (11). The web presents an unavoidable challenge and searchers are faced with a lack of any controlled vocabulary and a high number of irrelevant results. However, as was proven through the

interviews undertaken as part of this study, web searching plays an integral role in the search for grey literature.

Relevance of Grey Literature in Health Sciences

Meta-analyses

Meta-analyses and public health represent two areas where grey literature is considered to be very relevant. One of its major benefits is attributed to the reality that grey literature "is more likely to report studies with non-significant results…[which] may balance against the tendency of authors to publish only statistically significant findings. Gray literature provides invaluable context for understanding and critiquing the peer-reviewed work found in Medline" (12). This perspective is consistent with the theory of publication bias, "a term often used to refer to bias against the null hypothesis as well as any other bias that makes the results of published research different from other research" (13). This theory was found to be significant in those articles addressing the appropriateness of including grey literature in meta-analyses.

In their paper titled, "Does the inclusion of grey literature influence estimates of intervention effectiveness reported in meta-analyses?", Laura McAuley et al. conclude that "the exclusion of grey literature from meta-analyses can lead to exaggerated estimates of intervention effectiveness…[and that] meta-analysts should attempt to identify, retrieve and include all reports, grey and published, that meet predefined inclusion criteria" (7). They even go so far as to say that "if grey literature is not included

health-care decisions may be based on overly optimistic estimates of treatment effectiveness".

Conn et al. also discuss the inclusion of grey literature in meta-analyses and confirm the findings of McAuley et al. Of special interest, in Conn's article is the significance placed on the inclusion of grey literature in nursing research. The authors write, "The importance of funding suggests that the loss of valuable grey literature may be especially severe in nursing, where limited resources are available for research" (13). This confirms what other authors have written about publication bias and the inclusion of grey literature as a mechanism for alleviating this problem in meta-analyses in the health sciences. This notion was neither confirmed or refuted by the any of the participants interviewed for this study.

Public Health

Public health can be defined as, "the practice of improving a population's health" (14) and may involve looking for information about a specific health problem, population group or geographical location. The literature provides strong evidence that public health practitioners find the use of grey literature to be very relevant to their profession. Looking beyond meta-analyses, it is important to understand why those working in public health may have a greater need for grey literature than others in the health sciences. Anne Turner explains it in this way, "Much useful information in public health is generated through governmental and non profit organizations in the form of program reports, meeting notes, data sets, policy briefs, and other formats" (15). Kristine Alpi adds

meeting abstracts as another important type of grey literature in this field. Writing about information needs in public health, O'Carroll and Cahn highlight county specific health assessment data, mortality and birth statistics, air quality information, population-focused prevention guidelines, labor and industry regulations and health education materials as important grey resources (16). These authors all confirm that grey is not the kind of literature, which can be found by searching the peer reviewed, mainstream, biomedical literature and commercial databases such as MEDLINE and CINAHL.

Turner also outlines why grey literature is relevant to public health professionals with three key points:

- It enables them to learn from and build on the activities of others working in the field
- It enables them to provide examples of successful assessments or interventions to their stakeholders and constituents
- It provides support for policy decision making (15)

Other authors have made similar statements. Indeed as, Kristine Alpi points out, "Gray literature is often the only information available on a topic from a particular perspective or type of organizational source" (14).

All of the participants interviewed for the study made some mention of public health practitioners as a group who find grey literature very relevant and useful in their work. One interviewee in particular made frequent references to the localized information that public health practitioners find useful. For example, they are often seeking statistics or

reports on the incidence of a particular pathology, in a particular population group, within a very small geographic area. Additionally, another interviewee explained that public health practitioners are also seeking position papers, policy papers, standards, and best practice guidelines in order to guide some of their own policies and decision making process.

METHODOLOGY FOR INTERVIEWS

The purpose for conducting interviews was to obtain first hand evidence of the role of grey literature in the health sciences. Interviews focused on the information seeking approaches and information use of health sciences librarians/researchers with respect to grey literature.

Recruitment

Participants were recruited based on their professional work experience. The presidents of two local health library associations were contacted to ascertain feasibility of reaching members via their mailing lists; specifically, Elaine Baldwin, president of the Wellington-Waterloo-Dufferin Health Library Network and Linda Wilcox, president of the London Area Health Libraries Association (LAHLA). Ms Wilcox agreed to send a message to her group's list and a recruitment email was posted to the LAHLA group. One respondent was recruited using this method. Additional sampling relied on inviting practitioners and librarians known to the investigators for participation. The goal of recruiting 4 additional participants was met using this method.

The five participants represented a cross section of librarians and researchers from the health sciences, working in: hospital libraries, public health research, nursing education and research and university library public services.

All five of those who participated did so voluntarily. They each completed an interview with the researcher for approximately one hour. The interviews were guided by a set of 10 questions to ensure each interview covered similar topics. The questions were designed based on the information obtained from the literature search, with the aim to confirm or refute ideas found there, as well as to fill gaps in the information gathered.

The questions which guided the interviews were as follows:

1. What interested you in this project, prompted you to take the time to participate?

2. How would you define grey literature?

3. How would you define/describe it as it relates to the health sciences?

4. What types of information is it important for you to find?

5. Are there specific users you work with who are especially interested in finding grey literature? The literature review pointed to those doing meta-analyses and those working in public health, do you also find this?

6. How do you go about finding grey literature? Is it different each time depending on the situation or do you have a methodology in place?

7. Are you aware of any methodologies, which have been developed for health sciences by other sources?

8. What sources do you use for finding it?

9. Do you have a collection development policy for grey literature within your library/organization?

10. Do you feel as though there is something, which could be done to make accessing grey literature easier? From a Canadian perspective? For your users, your location in particular?

Although the above questions were used to guide the interviews, the conversations were open-ended leading each interview to move in a slightly different direction. Participants were asked to provide answers to the questions based on their professional experience and encouraged to discuss their observations and strategies. The responses were audio taped, and participants were advised that they could refuse to answer or withdraw from the study at any time. Two of the interviews were conducted over the telephone and three were conducted in person. This interview design was selected as an effective means of data collection. The first hand accounts obtained through the interviews provided an opportunity to discuss the topics at hand in a natural, semi-structured way. It enabled the researcher to clarify any statements made and to ask a range of questions.

Once the interviews were completed, the researcher transcribed each interview. These transcriptions were carefully examined to determine the differences and commonalities between the information offered by the participants and the information found through the literature review. Additionally, it enabled the researcher to identify themes between the interview participants.

INTERVIEWS

Defining Grey Literature

Understanding how the participants define grey literature was an important starting point for the interviews. This topic was discussed both in general and as it relates specifically to each participant's work within the health sciences. The participants variously described grey literature as "irregular, not well-documented, huge, unpublished, underground, difficult to find, ephemeral, not peer reviewed and invisible". Only one participant used a definition in the traditional sense and in fact cited the Luxembourg Convention definition from the 3rd annual conference in grey literature (1). This is the same definition uncovered in the literature review. However, the participant who used this definition is doing some research in the area of grey literature and has done an abundance of reading on the subject.

One of the participants used a description, which corresponds closely with the Luxembourg Convention. Significantly, the final component of the definition which was highlighted as being the most important, "that which is not controlled by commercial publishers" (1). The participant described grey literature as anything, which is not officially published. Initially this was qualified when he/she said that it may not have an ISSN or ISBN, however when examining some examples of grey literature contained in their library, this librarian found that some of the materials which they would in fact define as grey did have ISSN and ISBN numbers. This only stands to highlight how difficult it is to draw a line between what is considered grey and what is not. This

underscores Julia Gelfand's observation that it can be very confusing for both patrons and librarians alike. (3)

In general, the participants tended to define grey literature not by offering a definition, but rather by offering examples of types of grey literature. These examples will be outlined in the next section of the report. Additionally, grey was also described by providing examples of what it is NOT. For example, participants described grey literature as not peer reviewed, not journals, not books, which does mirror the Luxembourg Convention and the notion that grey is not commercially controlled as books and journals are controlled. Another theme, which arose when participants were describing and defining grey literature, was the idea that it often gets produced in small quantities for a specific purpose or audience and was never meant for any widespread distribution, which perpetuates the difficulty searchers have in locating it. This is consistent with Haig and Dozier (2003) who stated that grey literature is often intended for a very specific audience and "widespread dissemination of information" is not the main objectives for the producers of the content"(6).

The most often cited example of grey literature by the participants of this study was reports; government reports, non-governmental reports, lab reports, organizational reports, association reports, technical reports and meeting reports. Additionally, white papers, pamphlets, advertisements, policy briefs, economic data, statistics and newsletters were offered as examples of grey literature.

What is it important to find?

With so many possible formats of grey literature available, it was important to distinguish which of these it was most significant for participants to find; both for their own work as well as for the work of their patrons.

Once again, the type of grey literature, which was referred to most often, was reports. However, the examples began to get more specific and included items such as: position papers, ministry standards, core competencies, foreign government reports, foreign technical reports, reviews of effectiveness programs, guidelines from associations. The types of materials cited as important for the participants to find, provide a segue to the producers of grey literature. The materials which were cited as most important to find by the participants were mainly produced by various government departments, associations and organizations. These sources of grey literature will be discussed in more detail in the section on *Methods for finding Grey Literature*.

Who is looking for Grey Literature

Who is most often looking for grey literature to support their work and research depended slightly on the type of library or the setting of the participants. In an academic health sciences library the most obvious group looking for grey literature are those 'tenacious' researchers who need and or want every last document on their topic. This could be PhD students or those doing systematic reviews and meta-analyses. The academic librarian noted that undergraduate students also often want grey items; however when they become aware of the time and possible cost of locating these items their need for these materials

is diminished. With reference to those individuals performing meta-analyses, the experience of the participants is consistent with what was found during the literature review. Those conducting meta-analyses are a group within health sciences who may want and in many cases should be, consulting the grey literature in order to be inclusive in their research.

As noted earlier, grey literature is important to those working in public health. This idea was wholeheartedly confirmed by all of the participants. Professionals working in leadership, program planning, program evaluation, policy setting and other administrative functions were referred to by the participants as specific users within public health for whom grey literature is especially significant.

Responses to this question seemed to depend on the location of the participants. It was interesting to find that one of the hospital librarians, cited high school students as one of the groups for which she searched for grey literature. It was explained that much of the peer reviewed journal literature is not at an appropriate level for these students, however grey literature found through charitable organizations and associations is more accessible. It also seems appropriate that a group such as this would not be mentioned in the journal literature consulted for the literature search, thus qualifying the need to get first hand accounts of the use of grey literature in the health sciences. The four other participants would not necessarily work with high school students in their daily experiences and therefore may not have been aware of the need a group such as this would have for grey materials.

Finding the Grey Literature in the Health Sciences

As there was very little information available in the literature regarding search methodologies for grey literature, the information provided from the interviews was invaluable in answering the questions posed at the outset of the study. The themes, which were identified from the interviews, provide a solid framework for visualizing how the information seeking process occurs for grey literature in the health sciences.

None of the participants who were interviewed indicated that they have a specific search methodology, which they follow to locate grey literature. When asked how they go about finding these materials one participant replied "with great difficulty". Another can be quoted as saying, "I fly by the seat of my pants". These two quotes sum up the general attitude of the group, which is that it is definitely not easy and one is not always successful in this endeavour. Despite the general feeling that these items are difficult to locate some very definite themes began to arise as each of the participants described the methods they use and sources they consult in order to find grey items. These themes can be divided into three categories: Searcher Knowledge, Web Searching and Personal Contact.

Searcher Knowledge

One of the participants iterates the role searcher knowledge plays in the quest to locate grey literature saying, "it may be obvious, but the more subject knowledge you have, the less time it takes to identify resources". The knowledge of the searcher can play a

significant role in how successful one is in locating grey literature. Searching for grey literature can be like putting together a puzzle. When you begin with a number of the pieces in place, it facilitates the ease in which you locate and place together additional pieces. This searcher knowledge can take on many forms. Perhaps a librarian knows the item is something that is located in his/her collection. A researcher in public health knows the associations and researchers in their field personally. The Nursing Faculty member who was interviewed explains the role searcher knowledge plays in her field by saying that students have not been exposed to the subject matter for a long period of time. Subsequently, they have difficulty searching for grey materials in a systematic way. Their instructor however may have been working in the field of study for many years and know which associations, organizations, or government departments are producing the kinds of materials required by the student. They may in fact, know the producers of the relevant information personally.

Although searcher knowledge may not lead directly to the information being sought, it assists in providing the pieces a searcher needs to begin looking for information in a more systematic way. Whether there is a great deal of searcher knowledge about the topic or document being sought, the second step in the search process tends to be the same.

Web Searching

Four of the five participants interviewed mentioned that they use the web search engine *Google* at some point in their search strategy. In most cases, *Google* isn't used with the intention that it will locate a specific document. Rather, it is used as a means to find an

additional piece of information that will aid in the overall search strategy. For those situations in which the searcher already has a good deal of knowledge about the subject, *Google* may be used to locate a particular organization or association the searcher believes may provide a link to the information required. In cases where the interviewee does not have a great deal of Searcher Knowledge, *Google* may be used to find some of that background knowledge and may provide clues as to where the searcher may want to look next. Even the participant, who did not use *Google* as a method for locating grey literature, did mention other search engines. In fact all of those interviewed indicated that they used a web search engine of some kind during many of their searches for grey literature. Additional search engines mentioned by the participants include *Dogpile*, *Google Scholar*, *Yahoo*, *Alta Vista* and *Vivisimo*.

Using web search engines is not the only common way in which those interviewed were using the web to locate grey literature. Websites of professional associations and organizations are also seen as great resources for locating grey literature as these associations and organizations are often the producers of the information, which is being sought. Examples of this would be searching the Health Canada website, Canadian Cancer Society website or the Canadian Nurses Association. When the associations or organizations are not the producers of the information, they are described as being a great resource of 'links' to further information. These links may come in the form of links to pdf's of documents, links to the websites of other information producers, references to useful information or documents or contact information for individuals or organizations which may provide an additional piece to the search puzzle.

The Internet is also used as a means to search for information from government departments and associations, which are not based in Canada. Many of those interviewed mentioned looking for information from the UK and Australia and the web helps them do this.

Additional web resources, which were cited by those interviewed, include searchable health information portals such as *Medline Plus* and *Kosmix*, and conference proceedings indexes such as those found in *Biosis Previews*. The participants also referred to databases, which are traditionally used for finding journal literature, as possible places for obtaining information which may lead to the location of grey literature. For instance, *Scirus, Google Scholar*, *Science Citation Index* and *PubMed* were all mentioned. Despite the many search engines now available and the improvements the Internet has made for those wishing to access grey literature, there was a consensus among the interviewees that grey literature remains very difficult to locate.

Personal Contact

Common to all of those interviewed was the idea that not everything is available on the web and that at some point in a search, some form of personal contact may need to be made with an outside source. This seemed to occur in two main ways. In the first instance an item may have been identified and the author or producer of the item is believed to be known. In this case, the author or producer may be contacted to determine whether a copy of the item may be obtained. Depending on who the producer of the item is,

obtaining a copy of the item may still prove to be a difficult task. Specifically cited for being difficult to locate, are those items that have been produced by a government department, specifically those materials produced by the Canadian federal government. One participant said that he/she has had occasion to telephone a department known to have produced a document, given them an item number and found they were still unable to locate the document. Not only has the department been unable to find it, they reported being unsure whether the document was really produced by their department. A number of those interviewed made parallel complaints about the difficulties of finding anyone to speak to who knows whether or not the item requested was their publication. This was particularly noted for federal government departments.

The second instance where personal contact often occurs is when a search has been narrowed down as far as the searcher believes he/she can go without additional input from another source. This may involve identifying contact information from an association's website and sending an email or telephoning them, contacting an individual who has been identified as a researcher in a particular subject area, or contacting another library. How much personal contact was made and how it was made varied from participant to participant. In general, it seems that when a known item is being sought, personal contact may be more appropriate than when trying to find whatever exists on a particular topic. Whether contact was made using email or telephone also depended on the individual preference of the participant.

Collecting Grey Literature

The information about the collection of grey literature found in the literature review tended to focus on academic libraries and the role subject or liaison librarians could play in determining what materials need to be collected. It was recommended that libraries develop collection policies for grey literature and actively seek to determine, and then collect the types of grey literature the faculty in their subject areas would find useful. Having interviewed only one academic librarian it was difficult to determine whether this type of approach is practical on a broad scale. However, it does seem as though subject librarians can and do play a useful role in collecting grey literature. The academic librarian interviewee explained that subject librarians may routinely scan sources that are useful for providing grey literature. However, this is done mainly for those disciplines, which are not, covered particularly well by the published literature. For example, the interviewee explained, "in occupational and physiotherapy where there are fewer indexes, fewer publications, fewer people writing on that kind of thing, on those topics…[we need] to be very careful to hunt down whatever we can hunt down if it would be of any interest to the faculty."

As Gretta Siegel writes in her article regarding the collection of grey literature, librarians may be reluctant to get in the business of collecting grey literature because of the additional work it creates (17). For the health sciences however, some of this reluctance may also come from the fact that a great deal of what is required by the patrons of these libraries is contained within the realm of the peer reviewed biomedical literature. There was also some indication from the interviews that the participants felt that the grey

literature is grey for a reason. It may be useful to a specific person working in a specific area but will not have a broad enough applicability to be catalogued and added to the collection. The academic health sciences librarian interviewee explained that "you have to try and balance the amount of time you spend hunting down things that are going to be used relatively infrequently and will fill up your stacks with stuff that is relatively unimportant".

None of librarians interviewed for the study had a collection development policy specific to grey literature. What they deemed worthy of collecting was based more on supporting a particular program or researcher. This was true for the hospital libraries as well as the academic library. The participants agreed that it would be impossible to cover the grey literature in any comprehensive way. The academic librarian suggested that perhaps a special library with a very specific scope may be able to do this, but it would not be appropriate for an academic library. However, even the librarian working in a very subject specific hospital library explained that he/she does not have a specific collection development policy for grey literature and it is the programs or research interests of individual patrons that guides his decisions about what grey materials he collects.

The authors writing about collection development recommended a proactive approach to collection development, which does not seem to be practiced in reality by any of the librarians or researchers in the study sample. The common practice among those librarians interviewed in the study tends to be more reactive. When an item is requested, or the librarian becomes aware that someone is looking for materials in a particular area,

they attempt to locate and distribute the items or catalogue them for inclusion in their respective collections.

Recommendations

When discussing ways in which the participants felt that access to grey literature could be improved, responses were varied. All of the participants agreed that locating grey literature is difficult and that they would prefer if it wasn't so, but there wasn't a great deal of similarity when it came to how improvements could be made.

One of the participants indicated that, "it would be nice to have a Canadian database of grey literature" but who would organize this information and what the scope for collection would be was unclear. This was also put forth by another participant who qualified the recommendation by saying "it would be nice to have a Canadian database which indexes grey literature in the health sciences but that it doesn't seem like it could be accomplished in a practical sense".

One of the librarians working in a hospital library recommended that there be more collaboration and sharing amongst information producing agencies. She explained that she has found that a number of groups are doing similar things but are unable to share and collaborate because of governance issues.

Another recommendation from most of the participants is that there is a need to raise awareness among the producers of information that what they are producing may have

significance to people other than those for whom it was originally intended. Producers need to be aware that other people may want to make use of their information and need to be able to both identify it and obtain a copy. However, as one participant pointed out, you can't saddle an organization with a mandate it wasn't originally given. If it was never assigned the task of indexing the information the organization produces, searchers cannot expect them to do so. In the same vein, the government was an often cited source of frustration for the difficulty searchers have in finding reports and other documents produced by various levels and departments. It was recommended that the government become more aware of the information needs of their population and improve the indexing of the materials they produce.

It was also suggested that it would be useful to have more items of interest gathered by one source and sent through email. Having the ability to subscribe to electronic newsletters or alerting services in areas such as community health, which include links to potentially useful materials would be of benefit. These electronic newsletters or emails can be scanned relatively quickly and investigated further or deleted as appropriate. RSS feeds on association or government websites would also enable searchers to quickly view new content and keep up to date on any new reports being released.

DISCUSSION

The interviews proved to be an excellent way in which to confirm many of the ideas identified in the literature review. The literature identified two groups within the health sciences to whom grey literature is most important: those working in public health and

those conducting meta-analyses or systematic reviews. The individual experiences of the interviewees tended to focus more on the grey literature needs of those working in public health which may be a reflection of the environments in which the participants work. There is no doubt however, that grey literature is sought by those working in public health on a regular basis. The interviews also provided a great deal of information about the specific types of grey literature materials being sought, which was one of the goals of the study.

There was a consensus among those interviewed that despite the improvements in access, which have been made with the advent of the Internet, grey literature remains difficult to locate. Although none of the participants identified precise search methodologies for finding grey literature it became apparent that all were using very similar strategies. These strategies can be categorized into three groups or steps which tended to be completed iteratively in a time frame dependent on the complexity of the search. The three methods identified are: Searcher Knowledge, Web Searching and Personal Contact. Web searching was the only strategy covered in any detail in the literature making the interview portion of this study an imperative source for gathering information on how information professionals and researchers are finding grey literature.

Strategies discussed by the participants for improving access to grey literature in the health sciences included the option to receive potentially useful information via various electronic formats, the establishment of a Canadian database for grey literature and community awareness among grey literature producers. The information found in the

literature review tended to focus on improving access by improving collection

development, which was not something that was validated by the interview participants,

so may not have practical applicability.

Overall, the sample size proved effective for gaining a general understanding of the role

of grey literature in the health sciences. However these findings may not be

representative of or transferable to a larger community. Performing a similar study using

a larger group of participants may resolve this.

References

1. Cassell KA. Report on the 6th International conference on grey literature. 1997.

2. Pace, AK. Black, white, and shades of gray (literature) on the web. Computers in Libraries. 2002:22(4):44-46.

3. Gelfand J. Teaching and exposing grey literature: What the information profession needs to know--examples from the sciences. Collection Building. 1998;17(4):159-66.

4. Anderson B. Electronic roundup. Grey literature and electronic publishing. Behavior and Social Sciences Librarian. 2001;19(2):81-5.

5. Conn VS, Isaramalai SA, Rath S, Jantarakupt P, Wadhawan R, Dash Y. Beyond MEDLINE for literature searches. Journal of Nursing Scholarship. 2003;35(2):177-82.

6. Haig A, Dozier M. BEME guide no 3: Systematic searching for evidence in medical education - part 1: Sources of information. Medical Teacher. 2003 JUL;25(4):352-63.

7. McAuley L, Pham B, Tugwell P, Moher D. Does the inclusion of grey literature influence estimates of intervention effectiveness reported in meta-analyses? Lancet. 2000 OCT 7;356(9237):1228-31.

8. Sulouff P, Bell S, Briden J, Frontz S, Marshall A. Learning about grey literature by interviewing subject librarians. College & Research Libraries News. 2005 07//Jul/Aug2005;66(7):510-5.

9. Siegel GE. Capturing academic grey literature-starting at home. Publishing Research Quarterly. 2004;20(1):62-9.

10. Lehman H, Webster J. Describing grey literature again: A survey of collection policies. Publishing Research Quarterly. 2005;21(1):64-72.

11. De Blaaij C. Grey literature from invisibility to visibility. Publishing Research Quarterly. 2004;20(1):70-6.

12. Banks M. Connections between open access publishing and access to gray literature. Journal of the Medical Library Association. 2004 04//;92(2):164-6.

13. Conn VS, Valentine JC, Cooper HM, Rantz MJ. Methods. Grey literature in meta-analyses. Nursing Research. 2003 Jul-Aug;52(4):256-61.

14. Alpi KM. Expert searching in public health. Journal of the Medical Library Association. 2005 01//;93(1):97-103.

15. Turner A, Liddy D, Bradley J, Wheatley J. Modeling public health interventions for improved access to the gray literature. Journal of the Medical Library Association. 2005 10//;93(4):487-94.

16. O'Carroll P, Cahn A. Information needs in public health and health policy: Results of recent studies. Journal of Urban Health: Bulletin of the New York Academy of Medicine. 1998;75(4):785.

17. Siegel G. Capturing academic grey literature: Starting at home. Publishing Research Quarterly. 2004;20(1):62-69.