

Information Literacy and Consumer Health

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1. INTRODUCTION: DEFINING INFORMATION LITERACY

Information goes beyond the library as a physical space and beyond traditional library resources in print or electronic format. As a librarian in an academic institution, I believe that all libraries and librarians have key roles to play in the development of an information literate population beyond the walls, corridors and networks of academia. It must be acknowledged that there a myriad of organizations, institutions and individuals, who in their respective roles, are well suited to share the responsibility of transforming users of consumer health information into information literate consumers of health information. Sharing of this responsibility must also include a commitment to participate in the delivery of reliable, relevant and valid consumer health information. Information literacy and consumer health are two spheres that are well suited for the convergence that is a characteristic of the Information Society. In this paper, I will discuss the intersection of information literacy and consumer health. I will define key issues, present existing opportunities for development and new initiatives for the future intersection of information literacy and consumer health.

Information literacy has been discussed avidly in education circles since the early 1990s, filtering from institutions of higher education down to primary schools. I am working with the definition of information literacy that includes development of knowledge, skills and attitudes in relation to information, information seeking, retrieval, evaluation and application. Information literacy implies a conscious and systematic attention to developing the capacity to effectively define an information need, use research tools and processes to identify and locate such information, assess it, learn from it, and communicate an analysis and synthesis of the information in response to that need.¹ During the growth of information literacy as an educational concept, librarians in academic settings were thrust into the centre of the marketing, development and delivery of information literacy programs. Rightly so! These activities are a natural outcome of the long-standing role of librarians in teaching the effective use of libraries and information resources.

1.1. Success in Information Literacy Programs

Important allies for information literacy programs in higher education are faculty and academic administrators. The success of information literacy programs often depends on active partnerships with and participation of faculty. The integration of information literacy programs into the curriculum has a significant impact on acceptance of these programs by students. Information literacy programs require the support and cooperation of academic administrators, faculty and librarians. Mirroring these realities of information literacy initiatives in the academic sector, there are important partnerships to be formed and nurtured in relation to information literacy and consumer health. It is important to emphasise that information literacy is an element of academic success but more importantly, information literacy contributes to lifelong learning beyond the academic arena. For these reasons, information literacy should be encouraged and developed in all potential areas. Consumers who need health information are a relevant and important audience for information literacy initiatives.

2. HEALTH

Before going further, I would like to put health in context. According to the World Health Organization: "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (www.who.int). In 2002, we live in a world in which the divide between the haves and the have-nots widens on an almost daily basis. The health divide exists alongside the digital divide. In a global perspective, a privileged few have access to the benefits of the rapid advances in health technology. These advances directly impact upon the quality of life of individuals, families, communities and nations.

3. KEY ISSUES SURROUNDING ACCESS TO HEALTH INFORMATION

3.1. The Digital Divide

The digital divide is a result of the information era. Where it once was quite evidently gaping, it appears that the digital divide within the populations of some countries is closing. Figures show that over 50% of the population of the US and Canada have Internet access of some kind. Within these two privileged nations, there continues to be regional disparities as well as significant groups of citizens that are under represented in Internet traffic.^{2,3} The impact of the digital divide is compounded when we consider that access to information technology today influences access to health information for all potential user groups, ranging from health professionals to patients and their families.

When discussing the delivery of health information, it is not only important to consider to whom the information is delivered, but also the appropriateness of language, content and format.

3.2. The Impact of Information Technology

There is a significant relationship between information literacy and information technology, particularly in relation to health information. Health sciences librarians were among the first to offer database search workshops to clinicians, researchers and students in health professions. This was and still is a reflection of the rapid advances in health care, the proliferation of health information and the application of information technology to health care, particularly in developed nations. Librarians have moved out of the library into classrooms, labs, offices and clinics that are now networked, digital, and increasingly, wireless. Medical discovery is advancing at an unparalleled rate. Health information continues to lead the way in digital availability and accessibility—witness the use of hand held computers for clinical information storage and retrieval by medical students and clinicians. Because of the proliferation of health information via information technology, information literacy is a very real issue across a variety of user groups, from students in health professions, to health professionals and consumers.

4. ACCESS TO HEALTH INFORMATION IN DEVELOPING COUNTRIES

Information technology increases the already existing health divide between developed and developing nations. There are a number of difficulties encountered in using information technology for delivering information to improve health in developing countries. Some of the difficulties are: inadequate and/or unreliable communications infrastructure; uneven local and regional connectivity; lack of access to information technology by health professionals; lack of skills for using information technology. In addition, there is the major problem of resource allocation in poor countries where the basic infrastructure for health and education are not sufficiently developed.⁴

4.1. Medline is Not the Only Solution

The health information needs of developing countries are different from the health information needs of developed nations. Only a small fraction of global health research addresses the health priorities of developing countries: infant mortality, nutrition and infectious diseases, to name a few. There is no doubt that valuable and relevant health research that addresses these priorities is being conducted in developing countries. None the less, key biomedical databases such as *Medline*, do not provide access to this research. *Medline* is the US National Library of Medicine's database covering the fields

of medicine, nursing, dentistry, veterinary medicine, health care systems, and the pre-clinical sciences. *Medline* contains citations and author abstracts from more than 4,300 biomedical journals published in the United States and 70 other countries. The file contains over 11 million citations dating back to the mid 1960's. *Medline* coverage is international, but most records are from English-language sources or have English abstracts.⁵ *Medline* is available free of charge on the Internet and is the most widely used medical database by researchers, clinicians, students and, increasingly, consumers. The print version of *Medline*, *Index Medicus*, is widely available in health sciences libraries of developing countries. The format may be more accessible, but the content is exactly the same.

4.2. Promoting Access Regional Health Literature: An African Example

Even in this information rich age, researchers and scientists from developing countries are not able to communicate their research as widely as their colleagues in other countries. For example, access to biomedical literature relevant to and published in Africa continues to be noticeably absent from *Medline* and its equivalents, in print or electronic format. Health professionals, researchers, development agencies, health administrators and planners both inside and outside the continent have long felt the need for access to what has been published on health issues in African countries. There are some solutions directly addressing this need. The Association for Health Information and Libraries in Africa (AHILA) with the technical support of the World Health Organization has produced an international index to African health literature and information sources. This index is called *African Index Medicus* (AIM) and is available in print and electronic formats. This is just one example of a regional index to valuable health information. There is a number of other such resources available providing access to regional health literature.

4.3. Digital Initiatives Addressing the Challenge of Health Information for Developing Countries

It should not be a foregone conclusion that using information technologies to deliver health information in developing countries is a challenge that cannot be met. In addition to valuable and relevant print resources, there are new initiatives involving the delivery of electronic information to health professionals and researchers in developing countries. One initiative involves leading biomedical publishers, the World Health Organization and a number of other partners interested bridging the digital divide by making vital health content available in electronic format at reasonable or no cost. Another initiative is investigating the potential for using personal data assistant (PDA) technology. This project is being coordinated by Satellife (www.satellife.org) an organization that has many years experience in using appropriate and affordable technologies to deliver health information to health professionals in developing countries. Satellife is conducting two pilot projects in three African countries to collect information from local health surveys

and to disseminate context specific medical reference materials to health professionals. PDA technology is central to both projects (pda.healthnet.org).

5. CONSUMER HEALTH INFORMATION

Consumer health information encompasses the continuum extending from the specific information needs of patients to the broader provision of health information for the lay person.⁶ Consumer health information is any information that people require to make informed decisions and choices about their health or the health of those close to them. Access to consumer health information should be timely, relevant, linguistically and culturally appropriate. In addition, consumer health information must be accessible and delivered in a relevant format.

5.1. The Rights of Consumers of Health Care

The Consumers' Association of Canada states that the consumers of health care have the:

- *right to be informed;*
- *right to participate* in decision making affecting his or her health;
- *right to be respected* as an individual with a major responsibility for his or her own health care; and have the
- *right to equal access* to health care regardless of the individual's economic status, sex, age, creed, ethnic origin and location.⁷

6. ISSUES IN THE DELIVERY OF CONSUMER HEALTH INFORMATION

The type of information consumers require for health care decision making is quite distinct within the unwieldy volume of information available today. Consumers require concise, accurate and meaningful information about their physical well-being and the many diseases and medical conditions experienced in their everyday lives.

6.1. The Abundance of Health Information

In today's information society, one of the problems is that acquiring a mass of information is relatively easy. The major problem confronting consumers today lies in the sifting through, evaluation and interpretation of this abundance of information in terms of its reliability, validity, and relevance.⁸ Shrinking time allocations of health professionals, resource constraints of health care systems and limited personal finances of

consumers, have combined with the availability of information resources to create a captive audience looking for health information wherever it may be found.

6.2. Quality of Health Information

It must be acknowledged that the quality and relevance of consumer health information is as questionable as any other type of information that is abundantly available today. Information “labelled” or “packaged” as consumer health information does not mean that it is valid, reliable or even relevant information. On the flip side of the scenario, what about health information which has been “found” or identified by the consumer, the patient, or the family? The same criteria must be applied. In order for consumers to be able to ask the right questions in the process of their information seeking and gathering, the principles of information literacy must be considered and applied.

6.3. Changing Relationships Between Health Professionals and Health Consumers

The growth in consumer health information sheds light on the fact that there has always been a knowledge gap between health professionals and their patients. Consumer health information is changing the long established pattern of relationships between health professionals and the public they serve. The information society, information technologies and health information appetite of consumers are the driving forces narrowing that knowledge gap. Information that was once found only in the ivory towers of health disciplines is now readily available at anyone’s fingertips. Information is power. Health information in the hands of the consumer may enlighten and dispel fears. Health information may confirm the worst fears. None the less, informed consumers play an active role in their own health and use health system resources more effectively.

7. PRINCIPLES OF INFORMATION LITERACY APPLIED TO CONSUMER HEALTH INFORMATION

The principles of information literacy can serve as teaching points to educate consumers about information at the same time as promoting “healthy behaviours” in information gathering. In the academic world, information literacy skills are being integrated into courses and into the curriculum throughout the educational programs and systems. (It would of interest to study whether the principles of information literacy, as directly or indirectly learned within academic settings, are applied when the same learners are seeking and using consumer health information for personal use). For consumers of health information who fall outside of educational systems, the process of information literacy can be translated into its basic components for more relevance and applicability:

- Knowing when there is a need for information

- Identifying information needed to address a given problem or issue
- Finding needed information
- Evaluation the information
- Organizing the information
- Using the information effectively to address the problem or issue at hand.⁹

8. LINKING INFORMATION LITERACY AND CONSUMER HEALTH

Information literacy and consumer health information are a natural union of theories and practices. The key issues and questions that relate to each concept must now be examined in light of the other when attempting to develop best practices for strengthening that union. How and where can information literacy be addressed for consumers? Where does information literacy “fit” as an educational concept for consumers of health information? Who is best situated to participate in the process that integrates the principles of information literacy into the framework of consumer health information? To answer these questions we must build on existing initiatives and partnerships that are already successfully addressing Health Literacy, an important component of any consumer health program. There are opportunities to develop new partnerships and programs based on an emerging and important initiative in many health professions, Evidence Based Medicine. Finally, the Mini Med Schools program combines the best available medical knowledge with the information needs of consumers. First, let us discuss health literacy and its impact on health.

8.1. Health Literacy: Key to Informed Participation in Health Care

It is impossible to discuss consumer health information without discussing health literacy. Health literacy is defined as "the capacity of an individual to obtain, interpret, and understand basic health information and services and the competence to use such information and services in ways which are health-enhancing."¹⁰ Consumers are required to make decisions and interpret a wide range of information relating to health on a regular basis. Examples of basic health behaviours influenced by health literacy include being able to follow doctors' instructions or being able to take medication properly, based on reading prescription drug bottles. At a more advanced level, health literacy will contribute to an individual's ability to effectively manage chronic illness, to analyse relative risks and benefits of health care interventions or to provide informed consent. Consumers cannot participate in or benefit fully from health care systems if they are not health literate. An individual's functional health literacy may be lower than their general

literacy. Functional literacy is context specific. That is, an individual may be able to read and understand materials with familiar content but still struggles to comprehend materials written at the same level of complexity if that material contains unfamiliar vocabulary and concepts.¹¹

8.2. Health Literacy and Consumer Health Information Partnerships

Health literacy is closely tied to consumer health information and is an area that has been studied and reported considerably.¹² Partnerships and co-operative efforts exist. The American Medical Association has recognised the role of organized medicine as well as public and private sector health care decision makers in promoting health literacy as a policy issue.¹¹ In numerous studies and discussion papers, the Canadian Public Health Association (CPHA) recognizes literacy as an essential aspect of health and a major public policy issue.¹³

8.3. Promoting Health Literacy: The Canadian Public Health Association

The Canadian Public Health Association has taken a leading role in developing programs directed towards both health professionals and consumers promoting the links between literacy and health. The Association sponsored the First Canadian Conference on Literacy and Health (2000) (www.nlhp.cpha.ca/conference/index.htm). In Canada, health literacy is being addressed by building upon exist literacy initiatives and developing new programs and partnerships which address health literacy. Two examples of CPHA programs are the National Literacy and Health Program (www.nlhp.cpha.ca) and the Plain Language Service (www.pls.cpha.ca). The latter provides advice, workshops and other services for organizing and presenting health information so that it is easily understood. The former program partners with a number of national organizations in health care to raise awareness about literacy and health. The National Literacy Secretariat (www.nald.ca/nls.htm) is an active partner in CPHA health literacy initiatives. Another important Canadian resource is the National Adult Literacy Database (www.nald.ca), which is a comprehensive database of adult literacy programs, resources, services and activities across Canada. It also links with other services and databases in North America and overseas. These are successful initiatives that provide a strong foundation and natural partners for the development of programs that incorporate information literacy and consumer health.

9. BUILDING ON ESTABLISHED PARTNERSHIPS FOR DEVELOPING INFORMATION LITERACY AND CONSUMER HEALTH INITIATIVES

The above-mentioned programs enlist many other established partners across the spectrum of health professions, literacy organizations and beyond. These partnerships can be developed even further to promote the principles of information literacy in relation

to consumer health information. Some examples of additional partners and programs relating to health literacy in Canada that can form part of the foundation for information literacy and consumer health initiatives are:

- government literacy programs at the national and provincial level;
- independent literacy providers;
- community initiatives aimed at youth through schools, colleges and shelters;
- community initiatives directed towards seniors through hospitals and centres;
- web based resources provided by literacy and/or health organizations;
- health professionals and private companies in health care fields;
- consumer and patient health information services in public libraries and hospital libraries.

10. FORGING NEW PARTNERSHIPS: HEALTH SCIENCES LIBRARIANS AND PUBLIC LIBRARIANS

The previously mentioned partnerships and resulting programs have evolved out of the mutual commitment to the important issues of literacy and health and therefore are a natural constellation for working towards developing information literate consumers of health information. One very important partnership that has significant potential involves academic and public libraries and librarians. Academic librarians are well placed to contribute to information literacy initiatives for consumers of health information. In particular, health sciences librarians teach the principles of information literacy to students of the health professions in our institutions. Health sciences librarians design and create instructional materials such as information literacy tutorials and subject guides. Many are designing and maintaining library web sites. They collect, annotate and evaluate relevant web sites for diverse user groups in the health professions. Increasingly, academic health sciences library web sites include web resources and subject guides for consumer health information. In addition to linking to valid and reliable health information for consumers, academic librarians can enhance health information with value added components: online tutorials, built around and conveying the principles of information literacy, designed specifically for consumers. Partnerships between academic health sciences librarians and public librarians must be developed. This type of partnership could draw on the subject expertise of health sciences librarians to facilitate health information sessions in public libraries and to introduce concepts of information literacy to consumers. Public librarians bring to the partnership their own expertise in relation to how a very different group of users handles information seeking and processing. Public librarians could educate their academic colleagues on the information seeking patterns and behaviours of the public across the various user groups that public libraries serve. Information about providing access to consumer health information, developing collections and services is available from the Consumer and

Patient Health Information Section (CAPHIS) of the Medical Library Association (caphis.mlanet.org). The same organization has developed resources for consumers aimed at deciphering medical terminology, evaluating health websites and has provided a list of top ten useful health information websites for consumers. CAPHIS has evaluated TILT--Texas Information Literacy Tutorial (tilt.lib.utsystem.edu) as relevant for use with consumers for teaching some elements of information literacy in relation to web resources and the difference between professional and popular literature. The University of Texas Libraries developed TILT as a web based, interactive tutorial for students. Its simple design and its clear approach to presenting the principles of information literacy make it an excellent tool to be adapted for consumer health information. The resource includes an Open Publication License (tilt.lib.utsystem.edu/yourtilt) that authorizes distribution and customisation of the tutorial in whole or in part.

11. EVIDENCE BASED MEDICINE: CLINICAL DECISION MAKING IN THE INFORMATION AGE

Early in this paper information literacy was defined as “a conscious and systematic attention to developing the capacity to define effectively an information need, use research tools and processes to identify and locate such information, assess it, learn from it, and communicate an analysis and synthesis of the information in response to that need.” There is a movement within the healthcare professions that closely resembles information literacy—Evidence Based Medicine (EBM), and more broadly Evidence Based Practice or Evidence Based Health Care. EBM emerged from McMaster University, Canada, in the late 1980’s and corresponds in theory and practice to the philosophy or process of information literacy. The major difference is that it emerged in response to the educational, information and decision-making needs of clinicians in the information age.

11.1. Evidence Based Medicine: What it is and What it Isn’t

Evidence based medicine is defined as the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.¹⁴ EBM explained another way:

- Defining a focused clinical question (the patient, population, problem)
- Collecting the evidence to answer the question (the literature search)
- Evaluating the evidence gathered (critical appraisal)
- Integrating evidence, clinical knowledge and patient factors (make and carry out the decision)

- Evaluation of the whole process for improvement (integration into personal knowledge base and practice)

Evidence-based medicine moves away from heavy reliance on intuition, expert clinical opinion and knowledge of basic human pathological and physiological processes as rationale that are sufficient grounds for clinical decision-making. EBM stresses the examination of evidence from high quality, relevant, clinical research. Evidence based medicine requires new skills of the health professional, including efficient literature searching, and the application of formal rules of evidence in evaluating the clinical literature. EBM is an influential movement in education of health care professionals and in clinical practice. Medical specialists, nurses, physical and occupational therapists, health systems managers and decision-makers are increasingly applying EBM philosophy and processes to support clinical practices and decisions.

11.2. EBM a New Paradigm in the Education of Health Professionals

Across North American and Western Europe, schools of medicine, nursing and allied health professions are incorporating the principles of EBM into their programs from undergraduate through clinical levels. The philosophy of EBM is very much “each one, teach one”. Experienced clinicians are re-educating themselves, applying and teaching EBM principles to students and colleagues after attending one of several workshops which are held in growing numbers throughout the world. (The two most important EBM workshops are held annually at Oxford University in the United Kingdom and at McMaster University in Canada). From the definitions above, it is clear that EBM has much in common with information literacy—it mirrors the important components of information literacy, but the EBM approach is directly aimed at health professionals. There are barriers to teaching and practising EBM as well as controversies surrounding it. None the less, the influence of evidence-based medicine on clinical practice across the health professions shows no signs of diminishing.

12. EVIDENCE BASED MEDICINE: POTENTIAL TO CHANGE CONSUMER BEHAVIOURS AND PRACTICES

EBM parallels information literacy in a clinical context. EBM has implications for consumers, as it directly impacts on patient care. In the theory of the EBM process, patient needs are explicitly identified and addressed. Much of the information surrounding the principles of EBM can be used to make the process of clinical decision-making more transparent to everyone involved. The broad goals of EBM are relevant for consumer health information initiatives: making informed decisions about health care by reviewing and promoting the best available evidence. Because the focus of EBM is high quality, relevant information, this aspect is equally relevant for the consumer looking for

information about health issues and concerns. Health care professionals, providers of high-quality consumer health information and patient advocates now have an additional tool to assist in the education of the consumer in the quest for consumer health information. Many groups are increasingly asking questions about the quality of the evidence used in clinical decision-making. These questions present opportunities to open the process of communication with patients with regard to how clinical decisions are being made. What is the evidence? Health promotion activities can be tied to educating the public (teaching critical appraisal skills to consumers). Evidence based medicine, practice or healthcare, translates into evidence based patient choice. It is in the best interests of health care administrations, professionals and patients to encourage the development and application of evidence based principles to consumer health information. In other words, integrating evidence based thinking into the ways in which consumers think about health. Health professionals and patients can apply the EBM principles in relation to information seeking, retrieval, evaluation and application in contexts that are relevant for their own particular needs. EBM principles are used in clinical education and practice to change the way health professionals practice and teach. The same principles can be used to change consumer behaviours and practices.

12.1. EBM Initiatives for Consumer Health: The Cochrane Collaboration

Important partners for developing evidence-based initiatives for consumers are those health care professionals who are newly trained, beginning their professional careers and willing to apply principles and philosophy of EBM from the start. Another key partner in the EBM initiatives for consumer health is the Cochrane Collaboration (www.cochrane.org) an international group that includes researchers, health care professionals, and consumers. The goal of the Cochrane Collaboration is to make up-to-date, accurate information about the effects of health care interventions widely available through preparing and maintaining Cochrane Reviews of therapeutic interventions. In particular, the Cochrane Consumers and Communication Group is interested in information access; use and understanding; levels of knowledge; interpretation of information; perceptions of adequacy of information provided; perceptions of being informed; ability to evaluate information. The Cochrane Collaboration is committed to widely disseminating its rigorous reviews and other relevant information for evidence based health care and decision-making. Even so, the Collaboration is a product of the information age. There is no print predecessor to Cochrane reviews. Full text Cochrane reviews are only available via electronic access by subscription (although at a reasonable cost). This brings us back to an important consideration regarding consumer health information—information technology.

13. INFORMATION TECHNOLOGY: GATEWAY OR BARRIER TO CONSUMER HEALTH INFORMATION?

After consulting health professionals, when consumers need more health information, health sciences library collections in academic institutions are often consulted in the hopes that relevant information will be found there. It is not uncommon for a consumer to visit the library in person, to call or to visit the library's web site. As a health sciences librarian at a publicly funded research-intensive university, I believe that academic librarians and libraries have a role to play in providing access to health information for the consumer. It is in this environment that I see a disturbing trend. In the very recent past, our collections were openly accessible for consultation by the public. In principle that is still the case. In reality that principle is put to the test every day. Information technology is proving to be a barrier to accessing library collections. Consumers who would readily consult the collections of an academic library for health information, but who are not affiliated to the academic institution, face that barrier.

13.1. Access Denied: Moving from Print to Electronic Collections

The issue of information technology and access was discussed earlier in this paper in relation to developing countries. Let us look at the same issue from a very different perspective. In North American and Western Europe, academic libraries are scaling down print collections and purchasing significant numbers of electronic editions of reference works, textbooks and journals. With the soaring cost of information and the stranglehold of scholarly publishers, there is no room for duplication of print and electronic editions. The availability of print editions is shrinking significantly in some collections, particularly in the sciences. It is correctly noted that academic libraries are serving a larger portion of institutional users by purchasing electronic information that is accessible via network access, on and off campus. On the other hand, the license agreements for electronic resources signed by academic institutions severely limit who can use those resources. Where no such restrictions existed for print publications, the drive to digital has limited access to information to select members of the institution. Where does that leave the consumer—the person who is not affiliated in any way to an institution, who would like to consult an index, a reference book and, subsequently a journal? Publishers have never been interested in providing access to information. This has been demonstrated by the outrageous price increases of scientific, technical and medical journals over the last two decades. The steady increase in prices started with print publications and shows no signs of relenting now that most large publishers are firmly entrenched in the electronic dissemination of their publications.

13.2. Public Institutions, Public Funding: Public Access?

It is not merely for-profit publishers who are at fault here, academic libraries, particularly those in publicly funded institutions, must take responsibility for the licences they sign. Just as universities have traditionally signed away the publication rights of their own research to publishers, limiting access to information is in the process of becoming an established tradition. The institutions signing these restrictive licences are seeking to

satisfy the needs of their tuition paying, research grant generating, networked communities. But what about their communities, the very same communities they turn to for funds? Governments are also guilty of putting up barriers to information. They too, are the enforcers of strict licensing agreements for access to their electronic data and resources on campuses. Governments are also contributing to the digital divide by providing consumer health information, much of it in electronic format. But the same questions need to be asked: what about those consumers who are not on the digital highway? Just as are health care resources are being financially squeezed at every level, will governments continue to provide, or even begin to provide, the same health information in print as in electronic format? Before we move too far along the information highway, we must consider the impact of technology. It is as exclusive as it is inclusive for some populations. Is vital information such as valid, reliable, consumer health information being digitized out of the reach of those who need it? This is an issue which must be considered when initiatives and partnerships are being developed to provide consumer health information. Principles of information literacy apply across formats. But are we moving towards a time when there is no choice in how to access high quality relevant consumer health information? Governments, at all levels, libraries and librarians, health professionals, literacy, health and consumer organizations and other institutions must work with consumers to ensure that barriers to information are removed and health information needs are met. Governments and academic institutions can look to the Mini Med School initiative as an example of providing access to valid, reliable health information for consumers while at the same time fulfilling institutional responsibilities to community and society.

14. MINI MED SCHOOL: ACCESS TO VALID AND RELIABLE HEALTH INFORMATION FOR CONSUMERS

There are ways of information delivery that remain faithful to traditional methods while imparting the latest health advances to consumers. One example of this is—Mini-Meds. The Mini-Medical School project (Mini-Meds) has the additional value-added features of being adaptable to local resources and expertise, non-reliant on technology and expandable to include consumer health and information literacy issues.

14.1. Mini Med Schools

Mini-Meds are increasingly popular community education programs now offered by more than 84 medical schools, universities, research institutions, and hospitals in at the United States. Participating institutions include the National Institutes of Health and Boston University. McGill University's Mini-Med School was the first in Canada, making its debut in October 2001 (www.medicine.mcgill.ca/minimed). As with other Mini Meds, McGill's was immensely successful, with a full capacity of 275 persons sign up for the eight lecture series and a waiting list. Mini-Med School programs are

designed to make basic medical science accessible to the general public who would not normally have the opportunity to participate the learning experience that mirrors some topics covered in the first two years of medical school curriculum—cancer, human genome, pharmacology, etc. The lecture series is usually held over a number of weeks, each lecture covering a different topic, but without the pressures of homework and exams. Lectures are typically followed by a question and answer session. Organizers at participating institutions encourage their scientists and physicians to communicate their expertise to a broad audience. Mini-Med programs educate a wide range of consumers, raise awareness of health issues, provide reliable and valid health information and also present institutions with the opportunity to give something back to their communities.

14.2. Integrating consumer health and information literacy into Mini Meds

The relevance of the Mini-Med model for consumer health and information literacy initiatives is manifold. It is important to reiterate, these programs are designed for the public, draw on the local expertise to provide reliable and valid health information and need not rely on information technology. In addition there is potential to expand the content of the Mini Med programs to include other health and information professionals and to use their expertise for integrating information literacy and consumer health issues into the curriculum.

15. CONCLUSION

It is important not to re-invent the wheel when developing programs and initiatives for addressing the consumer health and information literacy convergence. The problem of under funding and cutting of health care resources (people, time and funds) is international and can be a very convenient excuse for doing nothing. It is critical to use existing resources efficiently. Some of the key principles of EBM, as discussed earlier in this paper, can be applied when identifying best practices that are suitable for consumer health and information literacy initiatives:

1. Focus the question—who is population to be targeted, level of literacy, etc. At this stage consider what outcomes are to be achieved and how these outcomes will be measured. For example, how is valid consumer health information to be defined and by whom? How does one recognize and measure the change in attitudes in an information literate consumer?
2. Collect the evidence—what has been done that is relevant.
3. Evaluate the evidence—this is cost effective and time efficient. Evaluate what has been done previously. What is the evidence that proves it has worked—outcome.

4. Integrate the evidence—be context specific. As outlined earlier in this paper, there are a number of collaborative efforts already underway which can be adapted and fine tuned for different environments and circumstances. On the other hand, even some of the best practices do not lend themselves to applicability in every situation, particularly those practices that are heavily reliant on information technology and high literacy levels of the target population.

Information literacy and consumer health information are natural allies, both contributing to health and quality of life for all citizens. Programs that address and combine these two important information issues will facilitate the empowerment of consumers to participate actively in making health care decisions and to participate effectively in the information age. There is no lack of willingness to supply information for consumers regarding health. This fact, combined with the growing appetite of consumers for health information, makes it increasingly important to ensure that consumers are well equipped. Information literacy skills are the tools with which consumers will be able to identify, access and evaluate information for health. Seek new partnerships. Expand existing successful partnerships. Develop and adapt initiatives for integration into existing best practices. These strategies, combined with ongoing commitment by all participants, are instrumental to the success of any initiatives that seek to address the convergence of information literacy and consumer health issues.

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