

Health Literacy: Technological Opportunities and Challenges

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Prepared by:

Ellen Balka

**Principal Investigator, ACTION for Health
Simon Fraser University**

Document Contact:

Ellen Balka

School of Communication
Simon Fraser University
8888 University Drive
Burnaby, BC, Canada V5A 1S6

tel: +1.604.725.2756

email: ellenb@sfu.ca

website: www.sfu.ca/act4hlth/

SFU Institutional Repository: <http://ir.lib.sfu.ca/handle/1892/3701>



Health Literacy: Technological Opportunities and Challenges

Ellen Balka, Ph.D.

Professor, Communications, Simon Fraser University
Director, Assessment of Technology in Context Design Lab (SFU)
Research Scientist, Clinical Epidemiology & Evaluation,
Vancouver Coastal Health Authority

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The Vision: Computer Mediated Health Information

“patients in towns and villages could receive medical attention once available only in metropolitan centres; and voluntary sector organizations could find new willing hands and strengthen our community capacity for self help and mutual help”

(Privy Council Office, 1997).



Presentation Outline

history

technology and health literacy

internet access to health information

computer aided patient navigation

concluding thoughts



History

- ideas about using the internet to support health have grown alongside Canadian community networking initiatives such as the Community Access Program (1994)
- provision of health information via internet gained momentum through the Information Highway Advisory Committee Proceedings (1994-1997), National Forum on Health (1994-1997) and Advisory Council on Health Infostructure (1997-1999) (Balca, 2003)



History

- computer mediated delivery of health information continues to capture public attention:

“Increased use of information technology in health care can also have important benefits for patients. It can provide them with better access to their own health information as well as to relevant health knowledge, which in turn allows them to play a more active role in maintaining their health and making decisions about their medical care”

(Romanow, 2002, p. 77)



Defining Technology

**“technology is a form of human cultural activity that applies the principles of science and mechanics to the solution of problems. It includes the resources, tools, processes, personnel, and systems developed to perform tasks and create immediate particular, and personal and/or competitive advantages in a given ecological, economic and social context”
(Bush, 1981 p.1).**



Technology and Health Literacy

emphasis is on two areas:

- health promotion (e.g., improved patient access to health information through the internet, computer aided health promotion programs, on-line social support);
- patient navigation through the health system.



Internet Access to Health Information

- access to the internet is often assumed in discussions about technology and health literacy;
- in 2000, 40.1% of Canadians accessed the internet from home compared to 22.6% in 1998 (Statistics Canada, 2001, July 26, para.1).
- 46% of internet users surveyed sought health information via the internet (Statistics Canada, 2001).



Internet Use Patterns

- BC residents are the Canadians most likely to look for on-line health information followed closely by residents of Ontario and Alberta (CHN, 2003)

However, internet use

- declines with age
- increases with income
- increases with education (Dryburgh, 2001)
- little data exists about ethnicity-- existing data suggest that internet access varies with ethnicity (Balca & Peterson, 2002).



Layers of Access

Governance & Policy	how system is governed
Literacy/ Social Facilitation	required skills including computer literacy, computer support, health literacy
Service Providers	business & organizations that provide access (telephone companies, libraries)
Content & Services	do people have content they desire or can use? (e.g., in Japanese or Mandarin)?
Software Tools	do internet filters constrain use?
Physical Devices	computers, modems, phone lines
Carriage Facilities	facilities that carry and store messages



Challenges Related to Access

"Policies to encourage access should consider factors such as geographic location, cognitive ability, language, physical disability, cultural origin, educational background, age, gender, income, social differences, technophobia, and traditional and digital literacy..."

Access policies must focus not just on delivery technologies but on the format, level of difficulty, language and ethnocultural assumptions that will determine the usefulness and acceptability of information for different groups."

Advisory Council on Health Infostructure, 1999



Internet Consumption of Health Information

- 66% of Canadians with internet access visit Web sites offering health and medical information
- about 41% of internet users visit health related Web sites on a monthly basis, and a smaller group of core users (16%) frequent them on a weekly basis
- women are more likely than men to seek health information on-line (76% women, 56% men)
- looking for health care information is the leading reason for people 55 and older going on-line

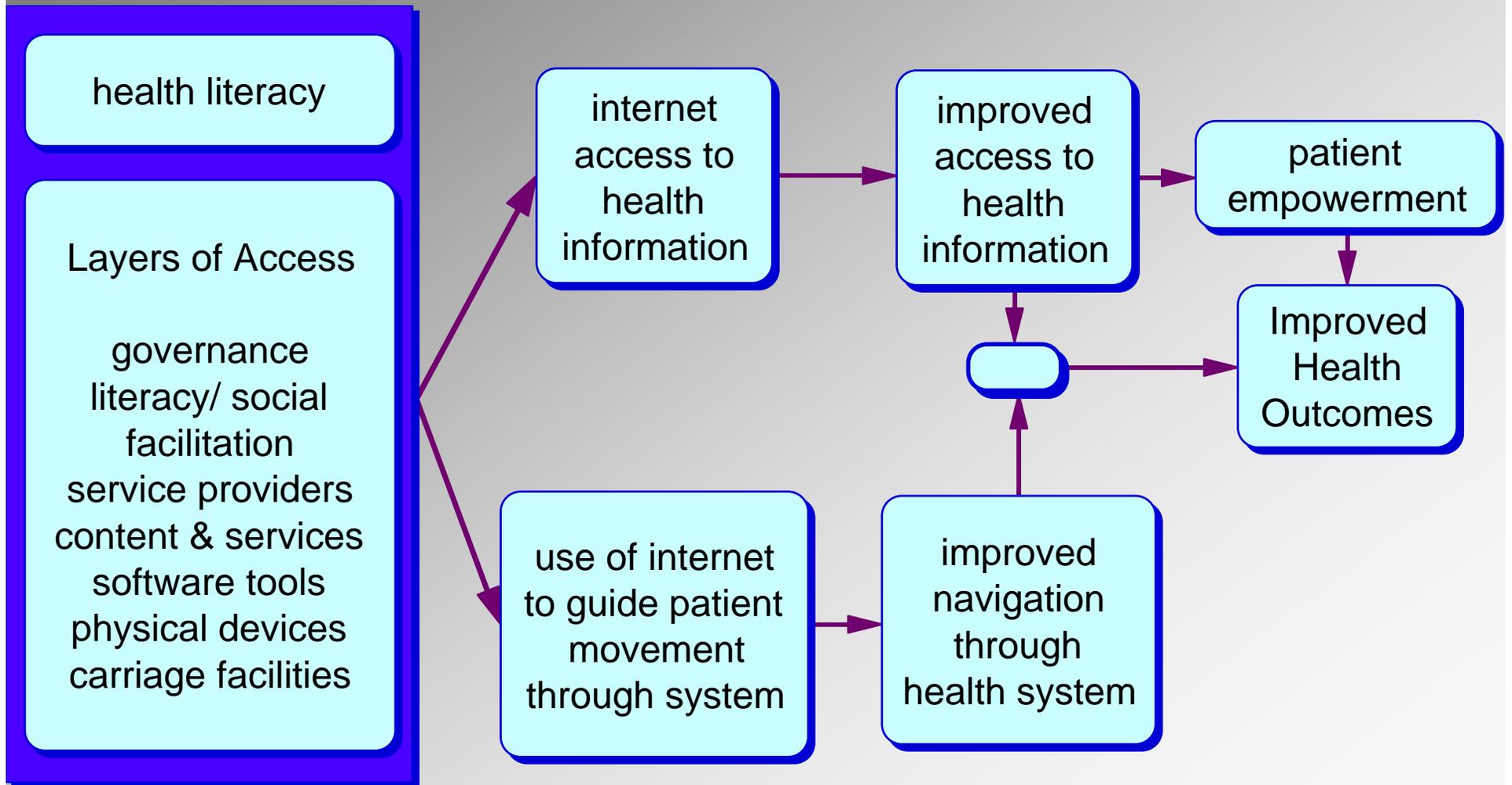
Canadian Health Network, 2003



Internet Consumption of Health Information

- the internet is now the second most common source for Canadians to get health information, ranking ahead of radio, television, and newspapers and surpassed only by face-to-face contact with a health professional
 - when seeking health information, Canadian consumers prefer to use portal Web sites because they provide access to a wide range of information
 - the Health Canada site ranks consistently in the top three health information sites accessed by Canadians
- (Canadian Health Network, 2003)

Technology and Health Literacy





Internet Access to Health Information: Opportunities

- **increased accessibility of health information for consumers (e.g., Medline, Canadian Health Network, BC HealthGuideOnLine)**
- **improved opportunities for provision of social support, through on-line support groups**
- **opportunities for health promotion via e-mail (e.g., weight watchers sends recopies; providers using disease registries could send care reminders, etc)**



Internet Access to Health Information: Challenges

- pre-internet, most health information was consumed in the presence of an 'information intermediary'-- a person such as a librarian or nurse who could help patients make sense of health information
- the internet provides consumers with more direct access to a wider array of information, often bypassing the human intermediary
- health information consumers may lack the ability to evaluate the bias of varied information sources, leaving them vulnerable



Internet Access to Health Information: Challenges

- issues arising for patients and other health information consumers are poorly understood;
- increased consumption of health information by patients and their friends and family members is changing patient provider dynamics (e.g., 'cyberchondriacs') National Council for Reliable Health Information, 2000
- anecdotal information suggests that internet access to health information may be resulting in increases to health service utilization



Quality of On-line Information is Critical

- a study about issues with using the internet for breast health assistance found that over 65% of women had access to the internet and used it to gather health information, BUT
- women in general were dissatisfied with the type and quality of information and assistance that they could obtain on the internet;
- most (85%) were willing to increase their use of the internet for health information.

Bowen, Unruh, Meischke, Robbins & Bush, 2000



Computer Aided Patient Navigation: Opportunities

- **technology is seen as a tool that can aid patient navigation, through a system or professional that uses consolidated information to expedite patient access to resources, improve continuity and co-ordination of care;**
- **grew out of cancer care-- responds to view that a lack of access, integration, co-ordination and continuity are barriers to care.**
- **currently breast cancer patient navigators exist at Victoria General Hospital, and in West Kootenays.**



Computer Aided Patient Navigation: Challenges

- data establishing effectiveness
- variation in models/roles
- poor matching of outcomes attributed to navigator role
- measurement
- funding



Computer Aided Patient Navigation: Challenges

- responsibility for delivery
- worry about duplication of role
- under utilization of technology (Doll, BCCA, 2003)
- keeping web-based/ computer mediated information available to navigators up to date
- medico-legal status of navigators, especially lay navigators
- issues related to data privacy



Computer Aided Patient Navigation: Technology Challenges

- development of data bases
- need to adapt tools for on-line use
- training of expert volunteers to help public assess information relevant to navigation
- development of on-line training in problem-solving
- on-line navigation (Doll, BC Cancer, 2003)
- need to provide services to multiple linguistic groups-- requires multi-lingual staff who have health literacy and computer literacy skills.



Conclusions

- **the conceptualization and measurement of technologically mediated health literacy is inadequate**
- **the extent of technologically mediated health literacy is not known, but could be significant**
- **low health literacy has multiple consequences, which include impacts on health as well as health service utilization**
- **certain population groups have lower levels of health literacy**



Conclusions (Cont.)

- **new health literacy issues and roles emerge with use of information technology to consume and provide health information**
- **use of information technology for consumption of health information is more difficult for people with lower general, health and computer literacy**
- **studies on the effectiveness of computer mediated interventions in relation to health literacy are insufficient**



Conclusions (Cont.)

- **the use of new technology for health promotion and patient navigation holds great potential**
- **realizing the potential of information technology to contribute to health literacy will require that we recognize the social nature of technology, and take steps to create social and technical mechanisms that break down, rather than reinforce differences in access to technology and information**



Implications for action: There is a need to...

- **better understand internet based health information consumption, including**
 - **health literacy issues related to direct access to information that bypasses intermediaries**
 - **emergent roles for lay and professional navigators**
- **conduct research**
- **develop and implement policies and programs to assess access and on-line health literacy challenges, and mitigate shortcomings and equity issues**
- **study the effectiveness of computer mediated health literacy interventions**



Questions and comments?

For more information, please contact
me:

ellenb@sfu.ca