Public health professionals in the Midwest: a profile of connectivity and information technology skills*

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Objectives: The aim of this study was to assess Internet connections and information technology skills of public health workers in the Midwest.

Methods: A questionnaire was mailed to 713 local health departments (LHDs) in the ten states of the Greater Midwest Region.

Results: Three hundred forty-four LHDs (48%) responded. Overall, 85% own a computer that would allow Internet access. Half provide Internet access to some or all staff. Of these, two-thirds use e-mail and half search the Web. One-half are linked to the State Health Department, and 30% are linked to other local health departments. Over half use CDC-Wonder; less than 20% search MEDLINE. Two-thirds of the respondents expressed an interest in MEDLINE training, and three-fourths are interested in learning more about the Internet. Sixty-nine percent of respondents planned to enhance electronic communication capacity within the next year.

Conclusions: Public health practitioners need timely, convenient access to information to aid them in improving the health of the American public. A majority of public health departments in the Midwest are technically capable of connecting to the Internet. This technological capability, combined with an expressed desire by public health agencies to have workers become computer literate, suggests an important role for health sciences librarians.

INTRODUCTION

In October 1987, the Regional Medical Library Network (RML), currently known as the National Network of Libraries of Medicine (NN/LM), and its 4,000 network members were encouraged by Congress to develop an outreach program aimed at assisting health professionals in urban and rural communities in accessing the latest biomedical literature online through the National Library of Medicine (NLM) databases. Between 1989 and 1994, NLM supported close to 300 outreach projects [1].

In April 1995, the United States Public Health Service sponsored a conference at the National Library of Medicine and recommended special attention be given to the information needs of public health workers. Leaders in the National Information Infrastructure (NII) initiative (which focuses on enhancing the basic infrastructure to support telecommunications and computer technology in health and other sectors of the

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U.S. economy), representatives of NLM, and public health leaders came together to explain their work, outline barriers that discourage application of the NII to public health, and plan a strategy for the future. Conference participants recommended that a broad range of partnerships, including state and local public health departments, federal agencies, professional associations, educational institutions, and libraries, was needed to address effectively all issues limiting application of the National Information Infrastructure to public (population-based) health.

The Partners in Information Access for Public Health Professionals (Partners) group has been formed in response to this recommendation. The major goal of the partnership is "to provide public health professionals timely, convenient access to information resources to aid them in improving the health of the American public" [2]. Specific objectives in meeting this goal include: (1) increase public health professionals' awareness of services of the NLM, the NN/LM, and the Centers for Disease Control and Prevention (CDC); (2) assist public health professionals in getting connected to the Internet; (3) train public health professionals in using information technology and information services; and (4) increase awareness of public health information needs and resources among NN/LM members [3]. Partners include the Association of State and Territorial Health Officials (ASTHO), the Centers for Disease Control and Prevention (CDC), the National Association of County and City Health Officials (NACCHO), the National Information Center on Health Services Research and Health Care Technology (NICHSR), the National Library of Medicine (NLM), and the National Network of Libraries of Medicine (NN/LM).

LITERATURE REVIEW

Findings in an extensive search of the literature supported the general consensus that much of public health involves the transfer of information and that information technology and communication systems will play a major role in transforming the public health system [4–6]. Many articles have been written describing various public health information systems and Web sites relevant to public health issues, yet little has been published on assessing the information needs of public health workers or describing approaches to meeting these needs. Only four studies, one unpublished, were found that specifically addressed these issues. One study reports on a project that was designed to improve information technology skills of a group of public health nurses. It describes a collaboration between the Tompkins-McCaw Library, the Virginia Commonwealth University School of Nursing, and the Virginia Department of Health to train sixty public health nurses in how to search MEDLINE using NLM's Grateful Med software [7]. Another project, the "Iowa Biomedical Information Access Project," was conducted in response to a report issued in 1997 by the U.S. Public Health Service, which called for improving information technology skills of public health workers [8]. This project, jointly conducted by librarians at the NN/LM Greater Midwest Region and three university libraries, reported on methods used to teach Internet applications and Grateful Med searching to public health department officials throughout the state of Iowa [9]. The Chicago AIDS Outreach Project described outreach in an urban setting. This project linked programs and services of the University of Illinois at Chicago Library of the Health Sciences and the Midwest AIDS Training and Education Center (MATEC) with community-based organizations in Chicago to provide electronic access to AIDS-related information for staff, patients, and caregivers [10]. The fourth publication described an outreach effort in Canada, and was perhaps less relevant due to significant differences between the U.S. and Canadian health systems. It involved a collaboration between the Hamilton-Wentworth Department of Public Health Services and the Teaching Health Unit affiliated with McMaster University to establish a specialized library and provide educational sessions on the use of information stored in that library [11]. Based on the published literature, little is known about information-seeking habits and Internet usage among public health workers. Our study endeavored to fill this void.

PURPOSE OF STUDY

After participating in the Iowa public health project outreach effort, the 1995 Public Health Service conference and the Partners project, the NN/LM Greater Midwest Region (GMR) embarked on a strategic planning initiative. One outcome of this planning process was a goal to improve access to information resources for member libraries as well as health professionals. Objectives in reaching this goal included: (1) to determine where, how, and why Internet and library access was difficult in the region and identify current levels of service; and (2) to encourage and assist network members to provide information services to underserved health professionals [12]. University of Illinois at Chicago (UIC) librarians applied for and received UIC faculty development funds to conduct a research project that would assess the needs of the more than 700 local health departments in the Midwest. Information obtained from data collected would then be distributed to librarians interested in conducting outreach activities at the upcoming joint meeting of the Midwest and Southern Chapters of the Medical Library Association.

Table 1
Connectivity and Internet access in local health departments—Greater Midwest Region

	Illinois n = 61 68%*	Iowa n = 43 44%	Indiana n = 53 57%	Kentucky n = 27 51%	North Dakota n = 14 58%	South Dakota n = 1 †	Michigan n = 24 48%	Minnesota n = 21 42%	Ohio n = 45 32%	Wisconsin n = 54 53%	Total n = 343 Average
All or some computers with Internet capability (14.4 Kbps modem and at least 8 MB RAM)	89.9	83.3	69.8	66.6	100.0	100.0	87.5	90.0	83.7	77.8	84.9
All or some staff with Internet access	60.0	39.0	22.6	42.3	71.0	25.0	91.7	66.7	65.9	54.7	53.9
LHD policy limiting or prohibiting access to Internet	28.8	7.5	6.0	23.1	7.1	100.0	66.7	19.0	20.5	26.0	30.5

* All percentages in table are based on the percentage of LHDs responding to the questionnaire. Not every question was answered by every LHD—missing cases are not included in percentages.
† The State Health Department of South Dakota completed one questionnaire for the whole state.

METHOD

In Spring 1997, librarians at the University of Illinois at Chicago Library of the Health Sciences, in collaboration with GMR staff, prepared an assessment instrument (Appendix) adapted from one designed by NACCHO to gather information from local health departments regarding connectivity, electronic communication, and information technology skills among public health professionals. Questions were grouped specifically to gather information regarding: (1) computer equipment available to local health departments and whether or not it would allow access to the Internet; (2) staff use of the Internet and specific information resources; (3) future plans to network or enhance electronic communication; and (4) training opportunities for public health professionals. State health departments were contacted to obtain addresses for all local health departments within their borders. The questionnaire was pilot tested on several local health departments in Iowa and Illinois. All pilot surveys were returned with no problem areas identified. The questionnaire was then mailed to 713 local public health departments throughout Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, North Dakota, South Dakota, Ohio, and Wisconsin to the attention of public health administrator. A self-addressed stamped envelope was included to facilitate and encourage return of the questionnaire. Upon return of questionnaires, data were entered into an SPSS file for tabulation and subsequent interpretation.

RESULTS

Three hundred fifty of 713 local health departments (LHDs) completed and returned the questionnaire. Of these, 344 were usable, giving an overall response rate of 48%. Response rates, by state, are summarized in Table 1.

Overall, 85% of responding local health departments owned at least one computer that would enable them to connect to the Internet should other conditions be met, such as a convenient and affordable Internet Service Provider (ISP). For purposes of this study, it was agreed a computer with modem equal to or greater than 14.4 kilobits per second (Kbps) and random access memory (RAM) equal to or greater than eight megabytes (MB) would provide public health staff access to the Internet.‡ North and South Dakota lead the way with 100% of respondents reporting their health department owned equipment that would allow Internet connectivity.§ This information is also summarized by state in Table 1.

Although the majority of responding local health departments own equipment that would permit Internet access, only slightly more than half (54%) allowed access to the Internet at the workplace for some or all staff. The range allowing such access, among states, was great. Michigan led the way with 92% of responding LHDs providing access to some or all staff while South Dakota, which reported 100% of its computers are equipped to handle dial-in access to the Internet, provided access only to 25% of employees who worked out of the central office. Similarly, 100% of respondents from North Dakota reported they owned a computer that is equipped to handle access to the Internet, yet only 71% provided access for some or all staff. Indiana, at 22%, provided little access to the Internet. Of particular interest, 31% of respondents reported their LHD had a formal policy that limited or

‡ Subsequent to completion of this project the NN/LM Greater Midwest Region posted on the Web, "Practical and Preferred Computer Systems for the Web at Work." A 28.8 Kbps modem and 16 MB RAM are now recommended, minimally, to gain Web access.
§ South Dakota does not have local health departments per se, rather the State Health Department operates field offices throughout the state.

Table 2
Use of Internet for select activities—some or all staff

	Indiana	Illinois	Iowa	North Dakota	South Dakota	Michigan	Minnesota	Kentucky	Ohio	Wisconsin	Average
E-mail	34.0	62.7	75.0	71.4	100.0	91.3	70.0	63.3	75.0	88.0	72.7
E-mail discussion list	11.6	13.0	8.1	8.3	100.0	60.0	33.3	11.8	19.5	18.2	28.4
Telnet/ftp	15.6	17.4	15.8	33.3	100.0	71.4	21.1	11.1	19.5	16.3	32.2
Searching Web	25.0	61.4	25.7	53.9	—	90.9	55.6	47.6	58.1	60.0	47.8

Note: Percentages are based on actual responses—many of the LHDs did not respond to each part of this question.

prohibited access to the Internet. A breakdown by state is presented in Table 1.

Specific use of the Internet by local health department staff also varied greatly. As expected, public health workers were most likely to use the Internet for e-mail; over two-thirds of respondents with access to the Internet used it for this purpose. Twenty-eight percent also participated in e-mail discussion lists. Close to one-half of responding LHDs reported some or all staff use the Internet to search for information on the Web, and a third use telnet or ftp functions. Internet use by state is summarized in Table 2. Close to 10% of those responding to the questionnaire indicated their LHD has developed its own Web page; a number noted they hoped to develop a Web page within the next year.

Information was sought regarding linkages between local health department computer systems and the State Health Department or other local or regional agencies. Again, this information varied greatly among states and among agencies. Overall, over half of responding LHDs (58%) were linked to the State Health Department, 30% were linked to other local health departments, 21% to county government offices, 17% to regional or district health departments, and 10% to field offices. Sixteen percent reported "other" linkages, including Federal government offices and local hospitals.

Also of interest was whether local health department staff made use of relevant online software or databases to manage their information needs; and, if not, what barriers prevented them from doing so. Overall, over half used CDC Wonder, a menu-driven database providing access to scientific and prevention data, and a third used EPIInfo, software used for word processing, data management, and epidemiologic analysis of data. Less than 3% of responding LHDs used CDC/INPHO, a more recent information and communication infrastructure linking the nation's state and local health departments to each other, CDC, other public health agencies, and the academic community. Less than 20% of respondents search MEDLINE or other NLM databases. Results of database use, by state, are summarized in Table 3. Lack of access and training were the primary reasons given by respondents reporting they did not search online bibliographic da-

Table 3
Information resources utilized by local health departments

Information resources used by LHD staff	Illinois n = 61	Iowa n = 43	Indiana n = 53	Kentucky n = 27	North Dakota n = 14	South Dakota n = 1*	Michigan n = 24	Minnesota n = 21	Ohio n = 45	Wisconsin n = 54	Total Average
Online databases:											
CDC Wonder	50.8	83.7	21.2	23.1	71.4		37.5	38.1	68.9	87.0	53.5
EPI Info	31.1	30.2	11.5	15.4	35.7		75.0	23.8	40.0	55.6	35.4
INPHO	5.0	0	0	3.8	0		4.2	4.8	6.7	1.9	2.9
MEDLINE (or other NLM databases)	21.3	14.0	7.7	15.4	28.6		20.8	38.1	20.0	14.8	20.1
Other†	9.8	2.3	1.9	7.7	7.1		16.7	4.8	4.4	11.1	7.3
Other sources of information:											
State health department	88.5	95.3	84.9	96.3	92.9		100.0	85.7	84.4	94.9	91.4
Personal books	75.4	88.4	62.3	77.8	71.4		79.2	90.5	71.1	85.2	77.9
Consultation with:											
Local colleague	67.2	67.4	52.8	63.0	50.0		79.2	90.5	66.7	68.5	67.3
Remote specialist	27.9	27.9	18.9	29.6	14.3		58.3	38.1	28.9	42.6	31.8
Library (med./public)	54.1	51.2	30.2	66.7	21.4		58.3	61.9	44.4	50.0	48.7
Other‡	9.8	7.0	3.8	14.8	14.3		4.2	4.8	11.1	13.0	9.2

* No information was provided from South Dakota; this state was not included in calculating the average.
† Other online databases used include PHIN, MDCH Healthline, environmental health, and census Web sites.
‡ Other sources of information included professional associations, NACCHO, Bureau of Public Health, and community resources, including those available at local colleges and universities.

tabases. Financial barriers and lack of equipment or time were also cited. Colleagues, manuals or tutorials, and in-house staff with some experience in using computers were reported as most helpful in solving problems encountered in searching online databases. Vendors and libraries were consulted least often. Asked to list information resources typically used in addition to or instead of online databases, respondents indicated the state health department was consulted by the vast majority. Personal books and local colleagues were also heavily utilized, paralleling a pattern that has been documented in the literature with studies of other groups of health care professionals [13]. This information is also summarized in Table 3.

Almost two-thirds of responding local health departments (63%) indicated they planned to network or enhance electronic communications within the next year. Of these, almost half (45%) planned to provide Internet access to some or all employees at the workplace, 18% planned to install or expand local area networks (LANs), and 16% would upgrade or purchase new computers. Linking to the courthouse, other county or city offices, school districts, or other local health department sites was planned for 15% of respondents, and 12% intended to expand access to e-mail, Web, or special databases (including CDCWonder and EPIInfo).

While the primary purpose of this survey was to learn more about connectivity, Internet use, and information seeking patterns among public health professionals, the NN/LM Greater Midwest Region also wished to know more about the use of information technologies in training staff in the ten states surveyed. Within the preceding year, the majority of public health staff were trained via teleconference (63%) or satellite broadcast (61%). Almost half of those responding to the survey used videotapes to train staff, and approximately one-quarter used audioconferencing and audiocassettes. Packaged computer courses (12%), the Internet (9%), and mixed media (8%) were used least often. Training also took place at workshops or seminars, professional conferences or health association meetings, and through enrollment in courses sponsored by the State Health Department or local colleges or universities. Some local health departments responded that shortage of staff and/or time made training difficult.

A vast majority of responding local health departments (over 75%) expressed interest in learning how to search for information on the Internet, and 64% were interested in learning how to search MEDLINE and other NLM databases. These responses are broken down by state in Table 4.

Numerous comments were offered that shed light on technological abilities and barriers to enhancing information technology skills of public health professionals in the Midwest. Many respondents commented on lack of funding, shortage of staff, insufficient time, and lack of training as major barriers to improving networking and communications at the local level. A very small number of respondents expressed concern regarding the integrity and confidentiality of records accessible via computer, and one simply saw no reason to provide Internet access. While respondents from some states—notably Iowa, Ohio, and Indiana—were optimistic about gaining networking capabilities within the next year, others were not as optimistic. One respondent from Minnesota felt local health departments located in rural areas were unlikely to become "connected" any time soon. One respondent stated, "We tried networking, and failed miserably." This person thought, perhaps justifiably so, that most small local health departments in rural areas lack the technical assistance necessary to troubleshoot problems. Many respondents offered comments regarding the need for training in locating and using appropriate sources of information, as summarized in the comment "Training and resources would be extremely valuable in community health assessment and improvement . . . local public health professionals require a great deal of information."

Table 4
Local health departments interested in training on the Internet and/or MEDLINE

	Internet training	MEDLINE training
Illinois	74.1	69.0
Iowa	81.0	59.5
Indiana	50.0	50.0
Kentucky	72.0	51.9
Michigan	83.3	66.7
Minnesota	81.0	47.6
North Dakota	85.7	84.6
South Dakota	no response	no response
Ohio	86.0	73.3
Wisconsin	76.5	69.2
Total all states*	76.6	63.5

* No information was provided by South Dakota; this state was not included in calculating the average for all states.

DISCUSSION AND CONCLUSIONS

Preparers of Making a Powerful Connection: The Health of the Nation and the National Information Infrastructure, a report of the U.S. Public Health Service, discuss a host of barriers that impede the public health community's meeting its information needs. These barriers include "a public health workforce that lacks essential information technology skills" [14]. That such a deficiency exists in much of the Midwest is supported by this study. Furthermore, they state, "Professionals who are unfamiliar with (or have limited access to) information technology and existing decision support and communication tools relevant to public

health responsibilities cannot argue effectively for increased allocation of resources to improve the public health information infrastructure. They are unlikely to take full advantage of technology that is available to them or contribute innovative ideas for applying the information infrastructure to population health" [15].

That more than 300 local health departments responded to this survey suggests information technology and issues surrounding the use of computers are of concern to public health professionals. Results show a majority of respondents possess equipment necessary to connect to other public health agencies and online databases via the Internet, and a great many do use these connections. Yet, while a significant proportion of public health workers are using computers to enhance communication, an important first step, use of computers to gather information by searching MEDLINE and other relevant public health resources is fairly low across the region. Only slightly more than half of responding LHDs reported they use CDC Wonder, a menu-driven software program designed specifically to help public health workers access critical public health information, and even fewer search EPIInfo. MEDLINE, now available free on the Internet, is searched least of all. Furthermore, only a little over half of responding LHDs reported that staff search the Web for public health information. Next to consulting the state health department, personal books and colleagues remain the major source of information for public health workers in this area. This source is inadequate to the task of providing comprehensive, current information to meet public health needs.

We live in an information-based society, and public health workers need many different types of information in order to perform their jobs effectively. The Internet and locally networked resources have considerable potential to improve access to information resources relevant to public health practice. Information technology is needed to educate and empower this group of health care professionals to band together and take action in solving community problems. This need, combined with an expressed desire on the part of responding public health agencies to have their workers become more technologically literate, creates an important role for health sciences librarians.

Results of the study suggest the possibility of a lack of awareness of resources available to public health professionals and/or a lack of training or time to search these resources. Results also point to a need for a regional outreach effort aimed at getting unconnected public health departments in the greater Midwest connected to the Internet and providing training for those who indicate an interest in learning how to use available resources. Assisting public health workers in accessing information via the Internet represents a natural progression in the outreach role of health sciences librarians.

In conclusion, estimates suggest, "only about 10% of all early deaths in this country can be prevented by medical treatment. By contrast, population-wide public health approaches have the potential to help prevent 70% of these deaths through measures that target underlying risks, such as tobacco, drug, and alcohol use; diet and sedentary lifestyles, and environmental factors" [16]. Through the use of information technologies, a partnership of medical librarians and public health workers can measurably benefit the health of the population.

SUBSEQUENT DEVELOPMENTS

In the summer of 1998, NLM, in cooperation with NN/LM, issued a request for proposals from NN/LM member institutions that have established, or plan to establish, a relationship with local and/or state health departments in order to assess information needs of public health professionals and propose an appropriate outreach program to meet those needs. The goal of this funding initiative was "to ensure that local and/or state public health professionals are connected to the information resources that can help them serve their local community more effectively, thus contributing to a strengthening of the public health infrastructure" [17]. Specifically, NN/LM members were encouraged to submit proposals that would: (1) promote awareness of public health resources at the state and national level; (2) teach public health workers to search for reliable information on the Internet; (3) teach public health workers to use PubMed and/or Internet Grateful Med to search MEDLINE and other NLM databases; (4) link health agencies with a NN/LM member library for document delivery; and (5) promote Internet use and Internet connectivity options available through NLM's connection grant program. A grant tool kit was developed specifically for the Partners' program and provided grant writing tips as well as links to funded Internet connections grants [18]. In October 1998, NLM and NN/LM jointly announced thirteen projects were funded totaling $650,000. These projects are scattered throughout the United States from Alaska to Vermont, mostly in rural and underserved areas.

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APPENDIX

Computers and electronic communications

Please answer the following questions describing your local public health department's access to computers and electronic communication/information services.

Local health department information

Name of local health department (LHD): _____
Street/P.O. Box: _____
City: _____ State: _____ Zip: _____
Telephone #: _____ Fax #: _____
E-mail address: _____
Name and position of person completing this form: _____
Number and types of employees in LHD—please include all sites:
Full-time employees _____ Part-time _____ Contract _____
Number of sites _____
Estimated population of your jurisdiction: _____

Local health department equipment

1. Does your LHD *have access* to a facsimile (fax) machine? Yes _____ No _____
2. Please estimate the number and types of computers available in the LHD:
   If no computers are available, please go to question 15.

	Number
PC compatible (earlier than 486)	_____
MacIntosh (earlier than System 7.0)	_____
MacIntosh System 7.0 or higher	_____
Terminal or workstation	_____
Other (please specify)	_____

3. How many of these computers have *RAM memory* equal to or greater than 8 MB:
   _____ none _____ all _____ some _____ don't know
   How many have a modem equal to or greater than 14.4 Kbps:
   _____ none _____ all _____ some _____ don't know

Local health department electronic services

4. Do any LHD staff *have access* at the workplace to the Internet or other online services?
   _____ yes _____ no _____ don't know

If yes, please to to Question 5.
If no, please go to Question 6.

5. What is the name of your Internet Service Provider? _____
6. Does your LHD have a policy that limits or prohibits access to the Internet?
   _____ yes _____ no _____ don't know

7. Please *estimate* the number of staff who use: (*Circle most appropriate response*)

a. E-mail	none	all	some	don't know
b. E-mail discussion lists/discussion groups	none	all	some	don't know
c. Telnet/ftp	none	all	some	don't know
d. Web	none	all	some	don't know
e. Other (*please specify*) _____	none	all	some	don't know

8. Does your LHD have its own home page on the Web?
   _____ yes (*please list* URL) _____
   _____ no
9. If information was sent to a designated e-mail address at your LHD, how often would a staff member be likely to check for messages?
   _____ At least once a day
   _____ At least once a week
   _____ Rarely or never
   _____ Not applicable
10. Is your LHD's computer system linked to any of the following? (*Please check all that apply*)
    _____ County government
    _____ Field offices/clinics
    _____ Other LHDs
    _____ Regional/district health department
    _____ State health department
    _____ Other (*please specify*) _____
11. Do you or your staff use online bibliographic databases or services to find information in: (*Please circle all that apply*)
    a. Medical literature using MEDLINE or other National Library of Medicine databases
    b. CDC Wonder
    c. INPHO
    d. EPI info
    e. Other (*please specify*) _____
12. If you are searching online resources, where do you seek assistance in solving problems encountered in using these resources? (*Please circle all that apply*)
    a. No help is available
    b. Vendors
    c. Local library
    d. Regional Medical Library
    e. Other (*please specify*) _____
    f. Online tutorial
    g. Printed manuals
    h. On-site computer person
    i. Colleagues
13. If you do not use online databases or services, what are your reasons for *not* using them? (*Please circle all that apply*)
    a. No online access
    b. No equipment
    c. No training
    d. No time
    e. Unsatisfactory results in the past
    f. Cost
    g. Don't know what is available
    h. Other _____
14. Other than online resources, do you or your staff obtain information through: (*Please circle all that apply*)
    a. State health department
    b. Medical or public library
    c. Personal/office collection of books and journals
    d. Colleagues/specialists available locally
    e. Consultation with remote specialists
    f. Other sources (*please specify*) _____
15. Does your LHD have plans to network or enhance its electronic communications capacity within the next year? If so, please describe.
    _____
    _____

Training for local health department staff

16. Have you or your staff participated in learning opportunities within the past year using: (*Please circle all that apply*)
    a. Teleconference
    b. Audioconference
    c. Mixed media
    d. Satellite broadcast
    e. Other (*please specify*) _____
    f. Audio cassette tapes
    g. Instructional videotapes
    h. Packaged computer-based course
    i. Internet course
17. Would you be interested in having your staff learn more about searching MEDLINE (biomedical literature) and other National Library of Medicine databases?
    _____ yes _____ no _____ don't know
18. Would you be interested in having your staff learn more about using technology to locate resources on the Internet that might be useful for public health workers?
    _____ yes _____ no _____ don't know

Comments: (*Please continue on another sheet is necessary*)

Thank you for taking the time to complete this survey.