Results of 1997 Annual Medical Center questionnaire of Library and Computer use

Highlights

Library use

- An estimated 85% (+/-3%) of the Medical Center has used library resources in the past six months. Significantly more faculty and students (100%) and fewer administrative M&P staff (51%) had used library resources.

- More than 50% of the Medical Center uses the libraries to locate research information, copy or read a particular article or book, and locate clinical information.

- Students commonly access library resources from the Medical Library (95%), home (50%), and from computer labs (45%); faculty from the Medical Library (86%), their offices (58%), and home (35%); M&P staff from the Medical Library (73%) and their offices (42%); and Hospital staff from the Medical Library (86%) and the Hospital floor (71%).

Computer use

- An estimated 99% (margin of error less than +/-1%) of the Medical Center has used a computer (or had one used by someone on their behalf) in the past six months.

- Students commonly use computers in the Medical Library (95%), home (78%), and computer labs (68%); faculty in their offices (77%), at home (79%), and in the Medical Library (70%); M&P staff in their offices (82%) and at home (58%) ; and Hospital staff on the Hospital floor (89%), at home (64%), and in the Medical Library (52%).

- More than 50% of the Medical Center uses computers for word processing, electronic mail, MEDLINE, the Internet, preparing presentations, locating information on a particular research question, Orbis, and electronic journals.

- Only 14% (+/-2%) of the Medical Center neither owns a computer nor has primary use of a Hospital- or University-owned computer. An estimated 73% (+/-4%) of the Schools of Medicine and Nursing faculty, staff and students owns their own computer.

- The majority of medical and nursing faculty, M&P staff, and students would like to have virus protection (72%) and the ability to send and receive faxes over the network (60%).

Electronic mail

- An estimated 95% (+/-3%) of faculty, M&P staff, and students at the Schools of Medicine and Nursing use electronic mail; 61% of Hospital staff use electronic mail.

- Microsoft Mail, QuickMail, and Eudora are each used by roughly one-quarter of the Schools of Medicine and Nursing; Pine is used by an estimated 37% and Netscape by 22%. M&P staff are most likely to use Microsoft Mail (48%), faculty are most likely to use QuickMail (51%) and Eudora (34%), and students are most likely to use Pine (88%).

- Almost half (43%) of the Medical Center community uses more than one electronic mail package.

Perceptions of library and computing services

- An estimated 50% (+/-3%) of the Medical Center has used the Medical Library's Reference Desk and 20% (margin of error less than +/-4%) has taken Library training classes.

- Desktop Support has been used by 42% of faculty and 62% of M&P staff; the Help Desk has been used by 56% of faculty and 58% of M&P staff.

- Faculty perceived staff at the Medical Library training sessions and Reference Desk to have more expertise than Desktop Support staff. They also tended to rate library's staff expertise more highly than that of the Help Desk, although the difference was not quite statistically significant.

- M&P staff rated the Medical Library Reference Desk staff more highly than the Help Desk staff.

- Faculty rated the expertise of Desktop Support staff significantly lower than did M&P staff.

- 40% of faculty and 43% of M&P staff read *Connections*. Approximately 1/3 of each group say they do not receive it.

Background information

Methodology

We selected a random, stratified sample of faculty, postdoctoral fellows, University M&P staff, students, nurses and residents. Faculty, postdocs, and M&P staff were drawn from the University's Human Resources database. Students were drawn from student enrollment lists supplied by their registrars. Nurses were drawn from the Hospital MIS's nursing database and residents were supplied by the House Staff Office.

We mailed people up to three copies of the survey, over a period of 10 weeks, until they returned a complete survey. People who did not respond to any of the three mailings were telephoned up to three times and asked to either return the survey or complete it over the phone.

People did not complete the survey for the following reasons: left the Medical Center, out of town for the summer, unlisted telephone number, or did not return the phone calls. A preliminary analysis to determine whether people who returned their surveys earlier had different patterns of library or computer use than later respondents revealed no significant differences, suggesting that non-participation was unrelated to the survey's content.

Response rates

group	population	original sample	responded	response rate
eph students	171	10	6	60%
pa students	64	10	7	70%
grad students	414	20	11	55%
nursing students	141	10	6	60%
ladder faculty	651	20	16	80%
other faculty	522	20	14	70%
research faculty	349	20	13	65%
admin M&P	477	20	17	85%
other M&P	284	20	17	85%
research M&P	411	20	17	85%
post doc	1001	20	14	70%
med students	486	20	10	50%
nurses	1250	40	38	95%
residents	388	40	20	50%
total	*6609*	*280*	*206*	*74%*
faculty & postdocs	*2523*	*80*	*57*	*71%*
students	*1178*	*70*	*50*	*71%*
staff	*1172*	*60*	*51*	*85%*
Hospital staff	*1638*	*80*	*58*	*73%*
faculty	*1522*	*60*	*43*	*72%*

The overall response rate was 85% in 1996 and 80% in 1995.

Human Resources classifies faculty into three groups called ladder (teaching faculty), research, and other, and of M&P staff into three groups called administrative, research, and other. Clinical faculty were identified by the Hospital's House Staff Office, and included both ladder and other faculty.

Population estimates given in this report were derived by weighting the responses according to their population N's.

Comparisons with 1995 and 1996 surveys

The following trends occurred between 1996 and 1997:

- More people use BMS in 1997 (12%) than in 1996 (5%).
- More people use the Internet in 1997 (87%) than in 1996 (72%).
- More people use library resources on the Hospital floor in 1997 (26%) than in 1996 (17%). More people use computers on the Hospital floors in 1997 (35%) than in 1996 (26%).
- Fewer people use library resources to use reference or text books in 1997 (44%) than in 1996 (56%).
- Fewer people use computers to prepare presentations in 1997 (67%) than in 1996 (71%).
- Fewer people use computers to prepare grant proposals in 1997 (29%) than in 1996 (34%).
- There is a tendency (not quite statistically significant) for more people to use computers from home in 1997 (70%) than in 1996 (61%).
- There is a tendency (not quite statistically significant) for fewer people to use library resources to copy or read in 1997 (56%) than in 1996 (65%).

The following trends occurred between 1995 and 1997:

- Use of Orbis has steadily increased from 1995 (50%) to 1997 (63%).
- Use of medical education software has steadily increased from 1995 (17%) to 1997 (32%).
- Use of electronic mail has steadily increased from 1995 (70%) to 1997 (84%).

Library use

An estimated 85% (+/-3%) of the Medical Center has used library resources in the past six months.

Frequency of library use

	estimate of Medical Center community's use
daily	12% +/-1%
several times a week	42% +/-2%
several times a month	32% +/-2%
several times a year	10% +/-1%
very rarely	4% +/-1%

Faculty (100%) and students (100%) used library resources significantly more often than M&P's (51%) (χ^2=48.2, *p<.001*).

Reasons for using the library

Purpose	Medical Center	Comments
to find information on a particular research question	80% +/-3%	Significantly more faculty (93%) use library resources for this reason (χ^2=17.9, *p*<.001).
to copy or read a particular article or book I've heard about	56% +/-4%	
to find information on a particular clinical question	56% +/-4%	Significantly more Hospital staff (87%) and fewer M&P staff (23%) chose this reason (χ^2=29.6, *p*<.001).
to prepare for a course I am teaching/taking	48% +/-4%	Significantly more students (72%) and fewer Hospital staff (27%) chose this reason (χ^2=18.1, *p*<.001).
to browse the latest journal issues	45% +/-4%	
to use reference or text books	44% +/-4%	
to find funding opportunities	11% +/-2%	Significantly more faculty (21%) and fewer Hospital staff (2%) chose this reason (χ^2=11.1, *p*<.05).

Computer use

An estimated 99% (margin of error less than +/-1%) of the Medical Center and 100% of the University sample has used a computer (or had one used by someone on their behalf) in the past six months.

Computer ownership

An estimated 85% +/-2% of the Medical Center and 90% +/-2% of the Schools of Medicine and Nursing either owns a computer or has primary use of a Hospital- or University-owned computer. Significantly more faculty (100%) and fewer Hospital staff (77%) (χ^2=45.0, p<.05) reported either owning a computer or having primary use of a Hospital- or University-owned computer.

An estimated 68% +/-3% of the Medical Center own their own computer; 59% +/-3% of the Medical Center has primary use of a Hospital- or University-owned computer.

Type of computer used

Overall, an estimated 40% +/-3% of the Medical Center uses Macintoshes and 60% uses Windows PC's.

	Macintosh	Windows PC
Faculty	67%	56%
Students	52%	50%
M&P staff	24%	67%
Hospital staff	22%	55%

Uses of computers

Purpose	Medical Center	Comments
word processor	90% +/-2%	
use Internet	87% +/-3%	Significantly more students (95%) and fewer M&P staff (72%) use the Internet (χ^2=10.6, p<.05).
electronic mail	86% +/-3%	Significantly more faculty and students (98%) and fewer Hospital staff use email (61%) (χ^2=31.5, p<.001).
MEDLINE	84% +/-3%	Significantly more faculty (95%) and students (100%) and fewer M&P staff use MEDLINE (46%) (χ^2=50.2, p<.001).
prepare presentations	67% +/-3%	Significantly more students (85%) and fewer M&P staff (46%) use computers to prepare presentations (χ^2=18.4, p<.001).
Orbis	65% +/-3%	Significantly more students (90%) and fewer Hospital (45%) and M&P staff use Orbis (48%) (χ^2=27.4, p<.001).
find information on a particular research question	64% +/-3%	Significantly more faculty (86%) and students (90%) and fewer M&P staff (26%) use computers to look for research information (χ^2=55.2, p<.001).
electronic journals	51% +/-4%	
organizational tool (record-keeping, budgeting)	48% +/-3%	Significantly more M&P staff (72%) use computers as an organizational tool (χ^2=11.5, p<.01).
Current Contents	47% +/-3%	Significantly more faculty (63%) and fewer M&P staff (28%) use Current Contents (χ^2=12.9.5, p<.01).
CCSS	46% +/-4%	Significantly more Hospital staff (95%) and fewer M&P staff (22%) use CCSS (χ^2=66.4, p<.001).
find information on a particular clinical question	46% +/-4%	Significantly more Hospital staff (66%) and fewer M&P staff (18%) use computers to look for clinical information (χ^2=26.5, p<.001).
analyze research data	44% +/-4%	Significantly more faculty (60%) & students (65%) and fewer Hospital (23) and M&P staff (24%) use computers to analyze research data (χ^2=29.6, p<.001).
major campus mainframes	44% +/-3%	Significantly more students (82%) and fewer Hospital staff (23%) use major campus mainframes (χ^2=34.0, p<.001).
prepare for a course taking/teaching	40% +/-3%	Significantly more students(75%) and fewer M&P (26%) and Hospital staff (25%) use computers to prepare for a course (χ^2=32.9, p<.001).
access patient care records	36% +/-3%	Significantly more Hospital staff (82%) and fewer students (22%) & M&P staff (18%) use computers to access patient care records (χ^2=56.9, p<.001).
scheduling	33% +/-3%	Significantly fewer students (12%) use computers for scheduling (χ^2=14.3, p<.01).
medical education software	30% +/-3%	Significantly more students (52%) and fewer M&P staff (20%) use medical education software (χ^2=11.3, p<.05).
prepare grant proposals	29% +/-3%	Significantly more faculty (44%) and fewer Hospital staff (7%) use computers to prepare grant proposals (χ^2=20.1, p<.001).
MicroMedex	27% +/-3%	Significantly more Hospital staff (52%) and fewer students (15%) and M&P staff (14%) use MicroMedex (χ^2=23.6, p<.01).
molecular biology computing	20% +/-3%	
find funding opportunities	18% +/-3%	Significantly more faculty (37%) use computers to find funding opportunities (χ^2=22.4, p<.001).
Human Resources System (HRS)	13% +/-3%	Significantly more M&P staff (42%) and fewer students and Hospital staff (0) use HRS (χ^2=42.4, p<.01).
Business Management System (BMS)	12% +/-2%	Significantly more M&P staff (42%) and fewer students and Hospital staff (0) use BMS (χ^2=48.1, p<.01).
Clinical Reporting System (CRS)	10% +/-2%	Significantly more M&P staff (24%) and fewer students and Hospital staff (0) use CRS (χ^2=24.2, p<.01).
APS Bullet	8% +/-2%	Significantly more M&P staff (24%) and fewer students and Hospital staff (0) use APS (χ^2=24.9, p<.01).
Space Information System (SIS)	8% +/-2%	Significantly more M&P staff (28%) and fewer students and Hospital staff (0) use SIS (χ^2=29.2, p<.01).

Usefulness of resources

Respondents rated the usefulness of 18 electronic resources using the following five-point scale:

1=crucial to my work

2=extremely useful

3=somewhat useful

4=not very useful

5=useless

Everyone rated word processors and electronic mail as crucial to their work. People's roles determined the perceived usefulness of other resources.

FACULTY	N	% rating crucial	mean rating
Word Processor	40	85%	1.18
MEDLINE	41	63%	1.49
Email	42	64%	1.50
Internet	39	41%	1.79
Mainframes	17	47%	1.94
CCSS	17	59%	2.12
Molecular Biology Software	13	38%	2.23
Orbis	32	31%	2.34
Current Contents	27	26%	2.37
Electronic Journals	25	12%	2.80
CRS	8	12%	2.88
Micromedex	12	17%	2.92
Med Ed. Software	12	0%	3.17
HRS	10	0%	3.40
BMS	6	0%	3.83
SIS	5	0%	4.00
APS Bullet	4	0%	4.50

M&P STAFF	N	% rating crucial	mean rating
Word Processor	43	72%	1.33
Email	41	63%	1.46
BMS	21	62%	1.90
Mainframes	22	59%	2.00
APS Bullet	12	67%	2.08
HRS	20	50%	2.25
Internet	36	19%	2.31
CRS	12	58%	2.50
Orbis	24	17%	2.54
MEDLINE	23	17%	2.61
SIS	14	36%	2.86
Electronic Journals	18	11%	3.00
CCSS	11	27%	3.36
Current Contents	14	7%	3.50
Med Ed. Software	10	20%	3.60
Molecular Biology Software	8	12%	3.63
Micromedex	7	0%	4.57

HOSPITAL STAFF	N	% rating crucial	mean rating
CCSS	53	75%	1.45
Word Processor	44	59%	1.55
Email	34	44%	1.91
MEDLINE	45	33%	2.00
Internet	46	26%	2.17
Electronic Journals	29	21%	2.31
Orbis	25	16%	2.44
Micromedex	29	14%	2.59
Current Contents	21	5%	2.62
Med Ed. Software	20	0%	3.40
Mainframes	13	0%	3.69
Molecular Biology Software	7	0%	4.43

STUDENTS	N	% rating crucial	mean rating
Word Processor	36	81%	1.33
MEDLINE	40	68%	1.48
Email	39	59%	1.59
CCSS	9	67%	1.67
Molecular Biology Software	7	57%	1.71
Internet	38	42%	1.79
Mainframes	33	52%	1.82
Orbis	36	33%	2.06
Med Ed. Software	21	43%	2.10
Current Contents	20	25%	2.45
Electronic Journals	23	13%	2.74
Micromedex	6	0%	2.83

Electronic mail

An estimated 86% (+/-3%) of the Medical Center uses electronic mail. Significantly more faculty and students (98%) and fewer Hospital staff use email (61%) (χ^2=31.5, *p*<.001).

Respondents were asked which email package they used.

	Microsoft Mail	QuickMail	Eudora	Pine	Netscape	Other
Faculty	28%	**51%**	37%	23%	28%	9%
Students	10%	5%	8%	**88%**	30%	18%
M&P staff	**48%**	34%	26%	6%	18%	6%
Hospital staff	21%	11%	7%	7%	12%	18%

Respondents also rated their satisfaction with each electronic mail package. Respondents were most satisfied with Microsoft Mail (a mean rating between 'very satisfied' and 'somewhat satisfied') and least satisfied with Eudora, and Pine (mean ratings between 'somewhat satisfied' to 'neither satisfied nor dissatisfied') ((F(5,158)=2.28, p<.05). Faculty were significantly less satisfied with Eudora than were M&P staff, and they tended to be less satisfied with Microsoft Mail and QuickMail than M&P staff ((F(15,158)=2.13, p<.05).

	% rating very satisfied			
	Microsoft Mail	QuickMail	Eudora	Pine
Faculty	33%	36%	12%	*
M&P staff	58%	47%	54%	*
overall	50%	42%	28%	29%
*There were not enough faculty or staff respondents to this question.				

An estimated 43% +/-3% of the Medical Center community uses more than one electronic mail package.

Perceptions of library and computing services

The survey asked respondents about five services:

- training sessions offered by the Medical Library
- training sessions offered by computing organizations
- on-site visits by computing support staff (Desktop Support)
- computing Help Desk phone line (785-3200)
- Medical Library Reference Desk

Use of library and computing services					
	library training	**computing training**	**Desktop Support**	**Help Desk**	**Reference Desk**
Faculty	16%	16%	42%	56%	63%
Students	42%	15%	0%	28%	68%
M&P staff	4%	36%	62%	58%	28%
Hospital staff	23%	-	-	-	43%
Hospital staff were excluded from analyses of computing services because they seemed to confuse Hospital and University computing services.					

Courtesy and expertise

Respondents used the following five-point scale to rate courtesy and expertise:
1=very high
2=somewhat high
3=neither high nor low
4=somewhat low
5=very low

Respondents did not perceive any differences in the courtesy of staff providing different services; they rated the courtesy of staff in all five services on average slightly closer to 'somewhat high' than to 'very high'.

Ratings of expertise differed, depending on the respondent's role ($F(10,159)=2.02$, $p<.05$). Average ratings of expertise fell between 'somewhat high' and 'neither high nor low.'
- Faculty perceived staff at the Medical Library training sessions and Reference Desk to have more expertise than Desktop Support staff. They also tended to rate library staff expertise more highly than that of the Help Desk, although the difference was not quite statistically significant.
- M&P staff rated the Medical Library Reference Desk staff more highly than the Help Desk staff.
- Faculty rated the expertise of Desktop Support staff significantly lower than did M&P staff.
- Students were significantly more satisfied with the expertise of library training staff than computing training staff.

% rating expertise very high					
	library training	**computing training**	**Desktop Support**	**Help Desk**	**Reference Desk**
Faculty	14%	0%	22%	25%	37%
Students	41%	17%	-	45%	30%
M&P staff	sample too small	22%	42%	28%	43%

New services

The survey listed five possible new services and asked respondents which they would use if they were available

Service	Medical Center estimate
computer virus protection via the network	68% +/-4%
send and receive faxes via the network	59% +/-4%
automatic backups of desktop computer via the network	44% +/-4%
email that can be encrypted	40% +/-4%
voice and videoconferencing	37% +/-4%

Connections newsletter

	read Connections	do not receive Connections
Faculty	40% (including 7% via Web)	33%
Students	5% (including 2.5% via Web)	82%
M&P staff	43%	29%
Hospital staff	9%	84%