
Impact of changing health care economics on Michigan hospital libraries: report of a survey*

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In an attempt to determine how efforts to contain the soaring cost of U.S. health care in the 1980s have affected the size and stature of Michigan hospital libraries, a survey was sent out in April 1988 to 156 hospitals across the state. Fifteen of the 97 responding institutions did not maintain libraries during the survey period and were subsequently excluded from the study. Total FTEs in the 82 responding libraries decreased by 6.1%. In the 69 libraries reporting budget data, materials budgets increased, but by less than 7% a year. Eighteen of the 82 libraries had positions reclassified, with 12 (14.6%) assigned downgrades. The trend toward reduced size and perceived value of hospital libraries that emerged from the survey points to the need for regular collection of comprehensive hospital library statistics to assist hospital librarians in effective direction of their profession's course.

Public and private initiatives to contain the cost of health care delivery in the United States in the 1980s have had a profound impact on all sectors of the health care industry, especially hospitals [1-2]. Faced with diminishing revenues and reduced occupancy levels in the wake of prospective payment implementation and alternative provider incentives, today's hospital administrators have been compelled to think of their programs and services in "bottom line" terms; that is, they must consider each as a profit, loss, or breakeven venture that must be scrutinized carefully and regularly to determine its value, affordability, and importance to the organization [3-4].

As a nonrevenue-generating department of not-easy-to-quantify value, the hospital library has become a particularly vulnerable potential target for cutbacks. This is especially true in light of the federal government's 1983 ruling that hospitals no longer need libraries to qualify for Medicare reimbursement [5-6].

A review of the library literature revealed concern over these changes [7-11] but did not reveal any studies on how hospital libraries' size and status have actually been affected, or any consistently reported

statistics that would have made such a determination possible. Thus, in an attempt to measure the impact of changing health care economics on hospital libraries in one state, a survey was sent out in April 1988 under the auspices of the Michigan Health Sciences Libraries Association (MHSLA) to 156 (70.6%) of the 221 Michigan hospitals listed in the 1987 *AHA Guide to the Health Care Field* [12]. The excluded 65 (29.4%) had been identified in an unrelated 1987 MHSLA study as not having a library.

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The two-page survey (Appendix 1) was addressed to the "Library Manager" and asked for data on changes in staff sizes, materials budgets, position classifications, and administrative reporting relationships between January 1985 and April 1988. It also included questions about changes in service levels and reimbursement for professional travel and meetings.

* Based on a paper presented October 6, 1988, at the Fifteenth Annual Educational Conference of the Michigan Health Sciences Libraries Association, Saginaw, Michigan.

SURVEY DATA

Response rate

Of 156 surveys mailed, 97 (62.2%) were returned. Of the 97 returned, 15 were from medical records or medical education personnel who indicated that their hospitals had not formally maintained a library during the time period surveyed or assigned any FTEs to whatever type of informal arrangement they did have. Since the purpose of the survey was to determine how hospital libraries in Michigan had changed during the time period specified, these fifteen (none of whom had responded to the 1987 MHSLA survey) were excluded from the final response pool and would have, in fact, been excluded from the survey population had the status of their libraries been known conclusively.

Thus, responses from 82 (58.2%) of the adjusted survey population of 141 were included in the final tabulation of data, except for materials budget data that was not supplied by 13 of the 82. These thirteen were excluded only from analysis of budget data and not from the response pool entirely because their answers were otherwise usable and complete.

Demographics

Table 1 shows that 70.2% of the hospitals in the adjusted survey population were in metropolitan areas (as defined by the U.S. Office of Management and Budget [13]), compared with 81.7% of all hospitals that responded. The difference between the number of urban versus rural respondents and nonrespondents was determined to be statistically significant ($P = .002$), i.e., the percentage of urban hospitals in the response pool was significantly greater than the percentage in the survey population.

In addition, Table 1 compares the bed-size of hospitals in the adjusted survey population versus those in the response pool. The overall difference between the bed-size categories of respondents and nonrespondents was also determined to be statistically significant ($P = .001$), i.e., the percentage of larger hospitals in the response pool was significantly greater than the percentage in the survey population.

Staffing level changes

Twenty-six (31.7%) of the 82 respondents reported having fewer FTEs in April 1988 than January 1985, while 22 (26.8%) reported having more, as shown in Table 2. The remaining 34 (41.5%) reported no net change. Of the 26 reporting fewer, 24 were from hospitals in metropolitan areas, with 20 from the state's largest metropolitan area, Detroit-Ann Arbor. Two of the 26 were from hospitals having less than 100 beds, while the rest were divided nearly evenly be-

Table 1
Demographic characteristics of survey population and respondents

	Population (n = 141)*	Respondents (n = 82)
Hospitals in metropolitan areas	70.2% (99)	81.7% (67)
Hospitals in nonmetropolitan areas	29.8% (42)	18.3% (15)
	$(P = .002)$	
Hospitals with less than 100 beds	39.7% (56)	12.2% (10)
Hospitals with 100-299 beds	27.6% (39)	35.4% (29)
Hospitals with 300-499 beds	20.6% (29)	32.9% (27)
Hospitals with 500 or more beds	12.1% (17)	19.5% (16)
	$(P = .001)$	

* (Number of hospitals)

tween the other bed-size categories specified in Table 1.

Total library FTEs in the 82 respondents decreased by 12.58 (-6.1%), as shown in Table 3. Support staff losses accounted for a larger percentage of the decrease than professional staff losses. The net loss of FTEs in the 82 libraries decreased the average staff size by 0.15 FTEs, from 2.53 to 2.38, as shown in Table 4.

Total FTEs in the 26 libraries reporting staff cuts decreased by 31.77 (-30.1%), as shown in Table 5. The largest single percentage loss reported was -66.7% (8.0 FTEs); the smallest single percentage loss reported was -5.0% (.05 FTEs). The average staff size in the 26 libraries decreased by 1.23 FTEs, from 4.06 to 2.83, as shown in Table 6.

Total FTEs in the 47 responding libraries in the Detroit-Ann Arbor metropolitan area decreased by -13.0%, while total FTEs in all other responding libraries increased by +9.8%. Table 7 suggests that these 47 Detroit libraries employed a higher percentage of support personnel at the beginning of the survey period as compared with the other respondents and thus were especially vulnerable to personnel cuts.

More FTEs were lost through layoffs than through attrition (57.8% versus 42.2%). Support staff FTEs accounted for 76.4% of all layoffs. The nineteen respondents reporting layoffs fell into all of the bed-size categories specified in Table 1, with the largest percentage in the 300-499 bed-size range.

Table 2
Changes in staffing level in responding libraries (n = 82)

Libraries with fewer FTEs	31.7% (26)*
Libraries with more FTEs	26.8% (22)
Libraries with no change in FTEs	41.5% (34)

* (Number of respondents)

Table 3
Total change in number of FTEs in responding libraries (n = 82)

	January 1985	April 1988	Net change
Total professional FTEs	106.00	101.30	-4.70 (-4.4%)
Total support staff FTEs	101.44	93.56	-7.88 (-7.8%)
Total staff FTEs	207.44	194.86	-12.58 (-6.1%)

Materials budget changes

As shown in Table 8, 50 (61.0%) of the 82 libraries in the sample reported having more funds in their materials budgets in April 1988 than in January 1985, while 10 (12.2%) reported having less and 9 (11.0%) reported no change. The remaining 13 (15.8%) did not supply this data.

The average change in materials budgets in the sixty-nine reporting libraries was an increase of +20.6% over the thirty-nine-month survey period. The greatest single percentage increase reported was +300.0% (\$9,000); the greatest single percentage decrease reported was -25.0% (dollar figure not provided).

The respondents reporting layoffs fell into all of the bed-size categories, with the largest percentage in the 300-499 bed-size range.

Average changes in materials budgets in relation to staffing level changes in the 69 libraries supplying budget data were +7.0% over 39 months in those losing staff (n = 24); +41.4% over 39 months in those gaining staff (n = 21); and +15.9% over 39 months in those maintaining the same staffing level (n = 24).

The average decrease in materials funds in the ten libraries reporting less was -8.9% over thirty-nine months. Six of the 10 also reported staff reductions. Libraries from hospitals in both metropolitan and

Table 4
Average change in number of FTEs in responding libraries (n = 82)

	January 1985	April 1988	Average change
Professional FTEs per library	1.29 (1.06)*	1.24 (0.89)	-0.05 (0.61)
Support staff FTEs per library	1.24 (1.68)	1.14 (1.40)	-0.10 (0.88)
Total staff FTEs	2.53 (2.54)	2.38 (2.15)	-0.15 (1.22)

* (Standard deviations)

Table 5
Total change in FTEs in libraries reporting staff cuts (n = 26)

	January 1985	April 1988	Net change
Total professional FTEs	50.20	36.75	-13.45 (-26.8%)
Total support staff FTEs	55.35	37.03	-18.32 (-33.1%)
Total staff FTEs	105.55	73.78	-31.77 (-30.1%)

nonmetropolitan hospitals and libraries in hospitals of all of the bed-size categories specified in Table 1 were included among the ten.

Position classification changes

Twelve (14.6%) of the 82 responding libraries reported at least one position downgrade during the time period surveyed, while 6 (7.3%) reported at least one upgrade. The remaining 64 (78.1%) reported no changes.

Of the twelve reporting downgrades, nine were from libraries that had also reported staff reductions. Libraries from hospitals in both metropolitan and nonmetropolitan areas and libraries from hospitals of all of the bed-size categories specified in Table 1 were included among the twelve.

Of the six reporting upgrades, one was from a library that had lost staff. None were from libraries that had lost materials funds.

Reporting relationship changes

Nineteen (23.2%) of the 82 respondents said that they reported to a lower-level hospital administrator in April 1988 than they had in January 1985, while 2 (2.4%) said they reported to a higher-level administrator. The remaining sixty-one (74.4%) said their reporting relationships had not changed.

Of the 19 reporting to lower-level administrators, 12 were from libraries that had lost FTEs and 7 were from libraries that had positions downgraded. Eighteen of the nineteen were from hospitals in metropolitan areas. Libraries from hospitals of all of the

Table 6
Average change in FTEs in libraries reporting staff cuts (n = 26)

	January 1985	April 1988	Average change
Professional FTEs per library	1.93 (1.37)*	1.41 (1.01)	-0.52
Support staff FTEs per library	2.13 (2.12)	1.42 (1.59)	-0.71
Total staff FTEs	4.06 (3.20)	2.83 (2.45)	-1.23

* (Standard deviations)

Table 7
Average ratio of support staff FTEs to professional FTEs: Detroit-Ann Arbor respondents versus all other respondents

	January 1985	April 1988
Detroit-Ann Arbor respondents (n = 47)	0.98 (0.95)*	0.79 (0.65)
All other respondents (n = 35)	0.51 (0.65)	0.56 (0.58)
Analysis of variance:	P = .035	
Interaction factor:	P = .060	

* (Standard deviations)

bed-size categories specified in Table 1 were included among the nineteen, with the largest percentage having between 300-499 beds.

Service level changes

Twenty-three (28.0%) of the 82 responding libraries reported reductions in services or hours during the time period surveyed, of which 19 (82.6%) were libraries that had lost FTEs. No libraries reported expansion of services or hours.

Travel/conference budget changes

Thirty-three (40.2%) of the 82 responding libraries reported that reimbursement for professional travel and meetings had been decreased or eliminated during the time period surveyed, while three (3.7%) reported that their travel budgets had been increased. The remaining forty-six (56.1%) reported no change.

DISCUSSION

The statistically significant disproportionate number of larger, metropolitan-area hospitals in the response pool, institutions that logically would seem more vulnerable to cutbacks during financially difficult times simply because there are more of them with relatively more resources to "spare," does not permit conclusive projection of the survey's findings to the entire survey population. However, as a gauge of the impact of changing health care economics on hospital libraries in Michigan, the findings are nonetheless meaningful, as it seems highly improbable that any cumulative changes in the size and status of existing libraries in the typically small, nonresponding hospitals would have been great enough to reverse (or even offset) the overall trends emerging from analysis of the eighty-two responses included in the final data pool.

Emerging trends indicate that the staffing and service levels, collection development potential, and perceived value and importance of hospital libraries in Michigan have been adversely affected by the economic

Table 8
Materials budget changes in responding libraries (n = 82)

Libraries with more materials funds	61.0% (50)*
Libraries with less materials funds	12.2% (10)
Libraries with no change	11.0% (9)
Libraries not reporting budget figures	15.8% (13)

* (Number of respondents)

challenges and changes facing health care providers in the 1980s:

■ **Reduction in staffing and service.** While approximately a quarter of the eighty-two respondents reported staff increases, the extent of the cuts in the third reporting less was so severe (nearly double what was gained) that the total change figure represented a net FTE loss of -6.1%. This reduction, reflected in service cuts in over a quarter of the responding libraries, is consistent with the industry-wide trend of hospital staff downsizing in the 1980s—U.S. community hospitals employed 78,000 fewer FTEs in 1986 than they did in 1982 [14]. However, the reduction is particularly disturbing when considering that the sharpest reductions in hospital staffing over the last decade occurred prior to the time period measured by the survey, and that between 1985 and 1987 overall hospital staffing levels stabilized and began to increase slightly [15].

Trends indicate that the staffing and service levels, collection development potential, and perceived value and importance of hospital libraries in Michigan have been adversely affected by the economic challenges and changes facing health care providers in the 1980s.

■ **Reduction in collection development potential.** The average change in materials budgets in the 69 libraries supplying this data was a little less than 7% a year (20.6% over 39 months). However, between 1985 and 1987, the average cost of a Brandon/Hill list book increased by 11.3%, and the average price of a Brandon/Hill list serial increased by 20.8% [16]. In addition in 1987 and 1988, medical serials prices increased by approximately 13% each year [17], while medical book costs rose approximately 5% a year [18]. Thus, the modest average increase in materials funds allocated to the reporting libraries during the time period surveyed did not appear to be nearly enough to maintain their collections at the same level.

■ **Reduction in perceived value and importance.** Reporting relationships were reorganized in almost one quarter of the responding institutions so that the library was lower in the hospital's organizational hierarchy. In addition, twice the number of responding libraries reported position downgrades than reported upgrades, findings that, although undoubtedly not library-exclusive, nonetheless imply that administrators at these institutions had come to regard the library and the library staff's work as less vital than that of other departments. Also, widespread reductions in travel and conference funds, although again certainly not library-exclusive, indicate that administrators at over 40% of the responding institutions had become less willing to see the professional and educational activities of librarians as relatively worthy of institutional support.

If any hospitals in Michigan eliminated their libraries during the time period surveyed, they were not identified, probably because the survey was addressed to the "Library Manager." If a follow-up survey is conducted, an initial poll of CEOs at the non-responding hospitals should be conducted first to determine if each hospital has a library and if not, whether it ever did.

Other revisions needed in a follow-up survey would be inclusion of more specific questions regarding changes in the number of books and journals purchased and questions providing a broader perspective on hospital-wide organizational changes and restructuring.

CONCLUSION

The survey's findings indicate that the economically turbulent health care environment of the 1980s has adversely affected the size and status of hospital libraries in Michigan. Although comparable statistics from other states have not been reported, downsizing appears to be a nationwide trend; the Medical Library Association (MLA) and its Hospital Libraries Section have formed a task force to study the problem [19]. It must be recognized that a mechanism for collecting statistics about hospital libraries on a regular basis is vital for comparison, planning, research, management, and "retooling" purposes. The Hospital Libraries Section and MLA's Information Systems Task Force are discussing cooperation on such a venture [20]; their work deserves both commendation and encouragement. Hospital librarians cannot successfully direct their professional course if they do not know where they have been or appear to be going.

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Appendix 1
Survey of staff and budget changes in Michigan hospital libraries since January 1985

	In January 1985	In April 1988
Number of professional FTEs		
Number of support staff FTEs		
TOTALS		

	Lost by attrition since January 1985	Laid off since January 1985
Number of professional FTEs		
Number of support staff FTEs		
TOTALS		

Have any professional or support staff positions been downgraded or reclassified since January 1985?
 Yes No

If yes, please describe change(s).

Is the reporting relationship between the library and hospital administration different than it was in January 1985?
 Yes No

If yes, please describe change(s).

	In January 1985	In April 1988	Net + (-)
Operational budget (excluding salaries)	\$	\$	\$ %

(Please supply net change figure as a percent if you do not want to supply actual dollar amounts.)

Has the library had to reduce hours and/or services since January 1985?

Yes No

If yes, please describe change(s).

Has reimbursement for professional travel and meetings been affected since January 1985?

Yes No

If yes, please describe change(s).

Other comments:

Hospital _____
 Number of beds _____

The Medical Library Association salutes the Sixth International Congress on Medical Librarianship, New Delhi, India, September 24-28, 1990. The congress is sponsored by the International Federation of Library Associations and Institutions (IFLA) and the World Health Organization (WHO) and is hosted by the Medical Library Association of India (MLAI).