

Patterns of Change in Offices of Research in Medical Education: 1979-1984

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Abstract. Directors of offices of research in medical education were surveyed in July of 1983 in order to assess changes within their offices occurring since a similar survey conducted in 1979. The goals, organizational relationships, effort devoted to various educationally-related activities, and current research endeavors were obtained from 39 offices. Descriptive statistics are presented which summarize the responses to the survey, including a detailed content analysis of 175 reported active research projects. Comparison data for 24 offices of research in medical education participating in both the 1979 and 1983 studies are also presented. Findings indicate that despite only modest increases in budget since 1979, offices have expanded both their research efforts as well as their involvement in faculty development. Other trends are discussed and compared to the findings of a survey of instructional improvement centers in higher education.

Perspective

The first office of research in medical education in a U.S. college of medicine was established nearly twenty-five years ago and by 1977 offices were reported operating in over half of the 121 medical schools in the United States and Canada (Miller, 1977). In general, these offices provide the educational support necessary to allow medical schools to train more physicians, while maintaining high educational standards. Moreover, they have sought to coalesce physician, educator, and administrator efforts in such diverse areas as (a) educational and institutional research, (b) curriculum development and evaluation, (c) faculty development, and (d) development and implementation of grant proposals for curricular improvement. The

structure, function, and staffing patterns of the offices have usually reflected these roles.

However, recent national studies (American Association of Medical Colleges, 1983; American Medical Association, 1982) indicate increasing the number of graduating physicians is less crucial than improving the quality of learning and instruction, increasing faculty teaching commitment, and expanding the role of undergraduate medical education in the physician's professional development. These changes may be difficult because new economic conditions and governmental priorities threaten the viability and direction of medical education by diverting faculty attention away from teaching and other educationally related activities (Petersdorf, 1983). Pressures on the clinical faculty to generate income through patient care and basic science faculty to produce more grant proposals simply to maintain existing support reduce time for curricular planning and evaluation.

Since these forces may also have influenced the form, funding, and function of medical education research, the Directors of Research in Medical Education voted in 1983 to survey its membership. This paper describes the results of that survey, compares these findings to those of an earlier survey in 1979, and discusses trends in relation to those found in another recent survey of instructional improvement centers in higher education.

Methods

A structured survey instrument was developed based on earlier surveys (Schimpfhauser, 1980; Miller, 1980) and was mailed to the 53 member offices listed in the 1983 Directors of Research in Medical Education directory. Thirty-nine (74%) responded with 32 (82%) representing U.S. medical schools, and the rest (18%) Canadian institutions. All but 7 (18%) were state-supported. Each

office director was asked to provide the following information:

1. Unit characteristics, including staffing and the office's position within the institution's organizational structure.
2. Percent funding from both internal and external sources.
3. Current mission, activities, and any changes in these over the last three years.
4. Present and estimated future percent of effort in the following areas:

educational research; program evaluation; instructional development; faculty development; direct teaching; educational support services; other activities

5. Current research activities including estimates of changes in effort expected for 1984.

Descriptive statistics (means, standard deviations, and frequency distributions for each response category) were derived for all questions. Two of the authors independently analyzed the content of questions requiring open-ended responses. Key words appearing in answers were used to develop categories for grouping these responses.

Results

Survey data indicate the present status of offices of medical education and, when compared to those of an earlier study (Schimpfhauser, 1979), document trends.

Staffing

Thirty-two offices (82%) were headed by Ph.D.'s or Ed.D.'s, six (15%) by M.D.'s, and one by a director with Ph.D. and M.D. degrees. The mean number of professional staff involved in educational research and evaluation was 6.5 with a majority of the offices (67%) reporting from one to five full time equivalent professional staff in this area.

Structure

Offices are either independent organizational entities (e.g., an academic department), or affiliated with

another unit (e.g., Office of the Dean). Of the thirty-nine offices responding, twenty-two (56%) are affiliated with another unit, while sixteen (41%) are independent. Most directors report to either a dean (36%) or an associate dean (39%).

Funding

Table 1 shows funding sources for offices grouped by institution type. Whereas the level of institutional support within both public and private institutions accounts for approximately 70% of total budget, the most noticeable difference is the percentage of funding derived from grants and contracts. Offices at private institutions exceed their public-supported counterparts in this respect by almost 10 percent.

Although external funding constitutes a substantial portion of many offices' budgets, twelve (39%) receive no outside support. A total of eighty-six grants and contracts were reported: thirty-eight (44%) from federal sources, twenty-six grants (30%) from private sources, ten (11%) from institutional sources, and 12 (15%) from state and local sources. Two or more externally funded projects were reported by 51% of the offices.

Budgetary increases for most offices are modest at best. Nineteen (56%) anticipated some budget increase in 1984, but only 29% of those offices anticipated increases over 5%. Eleven (32%) indicated no anticipated budget change and four (12%) anticipated decline.

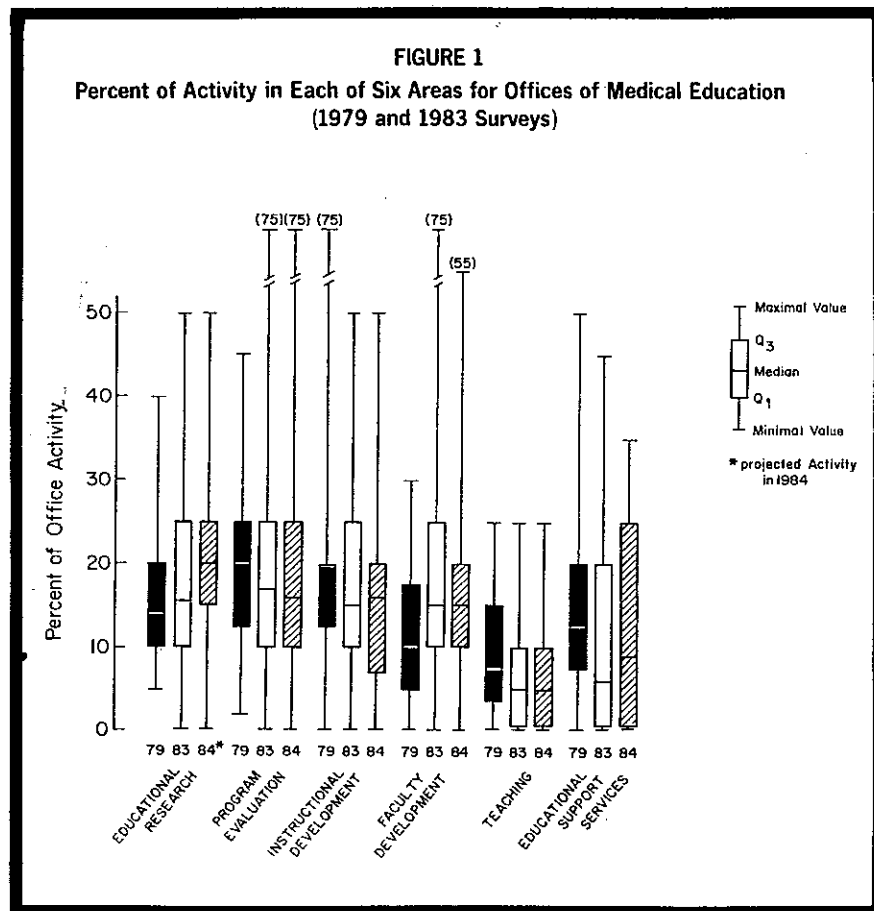
Mission and Activities

Fifty-one percent of the offices cited educational research and 44% cited faculty development in their mission statements. Other frequently stated missions included general educational consultation (36%), program evaluation (31%), curriculum development (31%), service/technical support (21%), teaching (8%), innovation (5%), and enhancing the institution's image (5%). Activities mentioned only once included attracting outside funding, improving student retention, and testing.

Thirty-seven of the 39 offices responded to the question concerning mission changes in the last three years. 57% cited changes in specific effort areas. These included increases in educational research (19%), attempts to attract external funding (14%), curriculum involvement (14%), computer related instruction (14%), program evaluation (14%), teaching (10%), workshops

TABLE 1
Mean Percentage of Funding
for Research Offices in Medical Colleges

Type of Institution	Institutional	Grants & Contracts	Internal Recovery	Other
Public (N=30)	72 (27.0)	18 (23.0)	6 (17.3)	4 (16.1)
Private (N= 7)	71 (34.2)	27 (33.1)	3 (3.8)	0 (0.0)



(10%), and institutional studies (10%). Three offices (14%) cited a shift from research to service activities. Other areas of increased activity were student counseling and problem-based learning, each reported by a single office. Areas of decreased activity cited by single offices included course evaluation and testing. Overall, reports of increased efforts far exceeded decreased efforts. Whether the effort report differences were due to underreporting could not be determined.

Activity Changes

Estimates of the percent of total office activity devoted to educational research,

program evaluation, faculty development, direct teaching, and educational service by twenty-four offices participating in both a survey conducted by Schimpfhauser in 1979 and the current one are summarized in Table 2 and the data are represented in Figure 1. Not all respondents in this comparison sample responded to each question.

Figure 1 reveals both changing patterns of activity as well as a great diversity of programmatic emphasis among offices. More than half (56%) of the offices responding to both surveys indicated increases in educational research, while 33% cited no change and

12% a decline. In spite of the decline in the median percent program evaluation activity, 50% reported increases while 22% noted a decline and 28% reported no change. Only 37% reported increases in instructional development, while 53% noted decline and 11% no change. Faculty development activity increased in 53% of the offices, decreased in only 11%, and remained unchanged in 37%. Only 11% reported increases in teaching activity, while 47% noted a decline and 42% no change. There is a wide range in commitment to educational support services with a third of the offices in the comparison sample reporting increases, 47% reporting a decline, and 17% no change.

Research Activity

The level of research activity at offices responding to the 1983 survey is substantial. 175 projects (funded both by grants and local resources) were reported, an average of 4.5 projects per office. The results of a content analysis of the project titles in which each was assigned to one of twelve major areas appear in Table 3. Areas are ranked by number of offices reporting and number of projects reported.

Research on medical student characteristics includes development of clinical reasoning/problem solving ability, professional socialization, and analysis of the effects of prior academic achievement, learning styles, and personality factors on achievement. Research on program/course/clinical evaluation includes studies of evaluation research methodologies, clinical performance evaluations, the technology of student assessment, and longitudinal studies of graduate performance. Instructional method and media studies involved techniques of clinical instruction, small group teaching, and CAI/microcomputer applications. Social or humanistic issue studies include patient education or disease prevention, physician manpower supply, humanistic health care, and health services delivery, while faculty evaluation and development studies concern distinguished teacher characteristics, lecture improvement techniques, and reliability/validity of student ratings of instructors and courses. Institutional studies included accreditation self-studies and evaluating projects specific to the home institution, while testing and measurement studies include test validation, criterion-referenced testing, testing procedures, and faculty review of

the National Board of Medical Examiners examinations. Studies of postgraduate training and continuing medical education were mentioned less frequently as was research related to curriculum development. The latter includes studying effects of programs on health care cost containment, geriatrics, health promotion education, cancer education, and social/behavioral issues.

Interestingly, studies of specialty and career choice which are perennial favorites of medical educators constituted only 4% of all projects reported and studies related to the medical school admissions process, another popular topic, constituted only about 3%. These include studies of the process of scoring the applicant letter and components of the selection process. Few studies related to the allied health professions were reported.

Other Academic Activities

Several offices reported other academically related activities including cooperative projects and direct participation by staff in teaching. Sixteen (41%) had at least one cooperative project under way with another institution and one office reported five such projects. Faculty from twenty-six (67%) offices are responsible for, or participate in, the teaching of courses to students in the biomedical sciences. A total of 59

such courses were reported and more than one-half (56%) were in the medical curriculum—in the basic and clinical sciences as well as the behavioral sciences and humanities applied to medicine. Eight offices (21%) are responsible for a degree-granting program specifically designed to train medical or health profession educators and an additional single office participates in two such programs.

Conclusions

Based on the information obtained from both the 1979 and 1983 surveys of medical education offices as well as a 1983 survey of instructional improvement centers (IICs) at colleges and universities (Gustafson & Bratton, 1984), the authors feel there is evidence to support a number of inferences. First, it appears that the age of expansion both in number and size of offices of research in medical education has ended and that there is a similar trend in university instructional improvement centers. In fact, there has been a slight reduction in average number of staff as well as in the total number of units in both medical and higher education. Based on a random sample of 72 of the 275 instructional improvement centers existing in 1975, Gustafson and Bratton estimated that 28% had ceased operation by 1983.

TABLE 3

Research Projects Classified by Topic

Areas of Study	Total Offices Reporting (N=39)			Total Projects Reported (N=175)		
	F	(%) ¹	Rank	F	(%)	Rank
Characteristics of Medical Students	24	62	1	42	24	1
Program/Course/Clinical Evaluation	20	51	2	24	14	2
Instructional Methods & Media	15	38	3	23	13	3
Social/Humanistic Topics ²	14	36	4	22	13	4
Faculty Evaluation/Development	10	26	5	12	7	5
Testing and Measurement	9	23	6	9	5	7
Institutional Studies	9	23	6	11	6	6
Post Grad. Training & CME	8	20	7	8	4	8
Curriculum Development	7	18	8	8	4	8
Specialty/Career Choice	7	18	8	7	4	9
Medical School Admissions	5	13	9	5	3	10
Allied Health Professions	3	8	10	4	2	11

¹Percentages will not total 100% due to multiple projects conducted by offices

²A heterogeneous category including: health manpower analyses, humanistic and social issues, patient education and health promotion.

Miller's 1977 survey of offices of research in medical education identified 65 units. Forty-four of these units are still in operation and an additional 11 were established since 1977 for a net loss of 9 (14%).

The pattern of reported changes in activities within offices of research in medical education reflects those social and economic forces enumerated by Petersdorf (1983). There was a decline in percent of effort devoted by professional staff to direct teaching, instructional development, educational support services, and program evaluation, and a simultaneous increase in research activity. This indicates offices are responding to the same forces that have purportedly caused faculty to shift attention from education to research. Although an increase in faculty development activity runs counter to this analysis, much of the faculty development activity has a research and evaluation focus. Fortunately for the educational enterprise, the thrust of research activity is not outside medical education, but rather in applied areas such as clinical reasoning/problem solving ability which allow office staff to blend their personal needs for intellectual inquiry and research productivity with instructional improvement.

Offices of research in medical education are changing. Much of this change may be due to their institutionalization. This institutionalization may be a positive, evolutionary development. But, as research offices have become part of their colleges they have also become subject to the forces (both internal and external) that affect medical colleges. With this "maturity," the offices have lost their special status as sheltered, innovative enterprises, and must now compete under the same conditions and criteria as other, more established, departments. It remains to be seen if these offices can demonstrate the research productivity this competition demands while maintaining the educational functions which have been their unique contribution.

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**New Associate Managing Editor
David F. Salisbury**

We are happy to welcome Dr. David F. Salisbury as the new Associate Managing Editor of JID. David Salisbury is a Research Associate at the Center for Educational Technology and Assistant Professor of Instructional Design at Florida State University.

TABLE 2

Offices of Research in Medical Education
Summary Data for 1979 and 1983 Survey Respondents¹

Year Established	Affiliation (S-State) (P-Private)	Region	FTE ²	Grants ³	% of Total Office Activity							Other ⁴
					ER	EV	ID	FD	T	ES		
1959	S	MW	28	(20.5)	10(4)	18(10)	3(2)	7(35)	1(10)	10(10)	45(10)	16(28)
1963	P	W	5	(15)	55(75)	20(20)	5(5)	15(10)	15(10)	5(5)	30(40)	10(10)
1965	S	W	1	(3)	40(25)	30(25)	0(15)	0(15)	20(0)	20(25)	0(25)	0(0)
1965	S	MW	7	(8)	20(15)	*12(25)	10(15)	10(15)	10(10)	10(5)	33(10)	12(5)
1966	S	MW	13	(12)	60(27)	10(--)	5(--)	20(--)	20(--)	15(--)	0(--)	40(--)
1967	S	CDN	3	(2.6)	40(20)	5(5)	10(20)	25(20)	25(20)	5(15)	30(20)	0(--)
1967	S	NE	4	(3.4)	0(0)	15(10)	15(10)	20(10)	10(5)	5(5)	25(50)	10(10)
1968	S	NE	4	(7)	50(47)	40(25)	15(20)	5(20)	10(10)	20(20)	0(0)	10(5)
1968	S	NW	12	(14.5)	75(92)	15(15)	25(30)	25(30)	10(10)	5(5)	10(5)	10(5)
1970	P	NE	3	(2)	2(5)	5(5)	45(45)	20(20)	0(0)	0(0)	30(30)	0(0)
1970	S	SE	6	(8)	39(48)	25(10)	30(15)	15(15)	15(15)	10(15)	5(10)	0(20)
1971	S	SW	15	(5.25)	0(20)	20(--)	5(--)	15(--)	25(--)	0(--)	35(--)	0(--)
1972	S	E	4	(4)	15(25)	15(--)	15(--)	13(--)	20(--)	2(--)	20(--)	15(5)
1972	S	SW	5	(5.5)	0(0)	15(20)	35(25)	0(20)	35(20)	0(0)	0(10)	15(5)
1972	A	CDN	5	(3)	50(40)	50(40)	20(20)	10(20)	20(10)	0(10)	0(10)	0(0)
1973	A	E	10	(10)	60(36)	30(10)	15(15)	10(15)	15(25)	0(2)	10(10)	20(23)
1973	S	CDN	2	(2.3)	10(5)	10(10)	20(15)	20(10)	10(10)	15(15)	5(15)	20(25)
1974	S	NW	0	(1)	0(--)	0(--)	0(--)	50(--)	0(--)	0(--)	0(--)	0(--)
1974	S	MW	6	(6)	10(10)	15(10)	25(20)	20(5)	30(20)	10(15)	0(20)	0(10)
1975	P	MW	7	(10)	90(65)	25(10)	20(10)	20(15)	35(30)	0(20)	0(15)	0(0)
1975	S	SE	4	(4)	0(5)	0(5)	5(5)	40(75)	20(5)	0(2)	5(3)	30(5)
1975	S	S	10	(13)	--(40)	--(--)	--(--)	--(--)	--(--)	--(--)	--(--)	--(--)
1976	S	NE	4	(5)	20(30)	20(20)	20(40)	20(10)	15(10)	15(5)	10(5)	0(10)
1978	P	SE	4	(3)	20(33)	15(13)	30(15)	15(20)	10(10)	0(10)	30(30)	0(2)
Mean '83			7		29	18	18	16	18	6	14	9
'79			7		29	15	18	20	12	10	16	10
Mode '83						15	15 & 20	20	10	0	0	0
'79						10	15 & 20	20	10	5	10	0 & 5

(Footnotes:)

¹1979 survey results are indicated in parentheses; unreported data are represented by '-s.

²number of FTE's involved in research & evaluation

³percent of office support from grants/contracts

⁴1979 survey results are combined staff development and other categories

*25% combined ER & EV

ER: Educational Research
EV: Educational Evaluation
FD: Faculty Development
T: Direct Teaching
ES: Educational Service