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ABSTRACT

An evaluation of the Wright State University School of Medicine (WSUSOM) educational program is presented. The major objectives of the medical school's program are the graduation of physicians who (1) perform competently in their residencies, (2) practice humanistic medicine, (3) are skilled in self-directed learning, and (4) are interested in lifelong professional learning. Findings and the development of the methodology which will be used in future investigations are reported. This study is both an investigation of one class and a measure of success of the program's prime emphases. The appendices include question lists for graduates and for supervisors of residents. (Author/PN)

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MEDICAL EDUCATION AT WRIGHT STATE UNIVERSITY: AN EVALUATION DURING THE FIRST YEAR OF RESIDENCY BY THE CLASS OF 1980 AND THEIR RESIDENCY SUPERVISORS

REPORT NO. 3

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MEDICAL EDUCATION AT WRIGHT STATE UNIVERSITY: AN EVALUATION DURING THE FIRST YEAR OF RESIDENCY BY THE CLASS OF 1980 AND THEIR RESIDENCY SUPERVISORS

Ronald J. Markert, Ph.D.

This study is both a macro and a micro evaluation of the Wright State University School of Medicine (WSUSOM) educational program. It is macro in that major objectives of the medical school's program are assessed--i.e., the graduation of physicians who (1) perform competently in their residencies, (2) practice humanistic medicine, (3) are skilled in self-directed learning, and (4) are interested in lifelong professional learning. It is micro in that individual curricular components of the program are assessed.

This study is important both for its findings and for the development of methodology which will be used in future investigations. However, the reader should be cautioned not to attach undue meaning to the results. The Class of 1980 is atypical in that it is small (only 31 graduates) and a charter class. Charter classes frequently are selected and treated differently from subsequent classes and thus can be quite distinct from their colleagues who follow. In addition, Class of 1980 graduates evaluated curricular experiences which, in many cases, have changed considerably since they participated. Nevertheless, the thrust of WSUSOM has remained intact--a sound medical education foundation in Biennium 1, fundamental clinical experience with a primary care emphasis, and flexibility provided by curricular components such as the selectives in Biennium 1 and Year 4. Thus, the study is both an investigation of the medical education of one class and a measure of the success of the program's prime emphases.

Methodology

Four interviewers conducted structured interviews with Class of 1980 graduates and their residency supervisors. The interviewers were an associate professor of Postgraduate Medicine and Continuing Education (PMCE), an associate professor of PMCE and associate director of Student Affairs/Admissions, and two Wright State University social work students in their senior year. Interviews followed the question lists found in Appendices A and B, and responses were recorded on data collection forms. Interviews were conducted during the February through May 1981 period. All 31 Class of 1980 graduates were interviewed--21 in person and 10 by telephone. The 31 graduates had a total of 23 residency program directors. Nineteen residency program directors thought they were best qualified to evaluate the WSUSOM graduate and thus were interviewed--10 in person and 9 by telephone. Four residency program directors thought another supervisor was better qualified to evaluate the WSUSOM graduate and thus delegated the interview. All four of these delegated physician supervisors were interviewed--2 in person and 2 by telephone. In designing the study, it was planned that directors of medical education (DME) at the hospitals where WSUSOM graduates were located would be interviewed. However, in contacting DMEs, only 2 thought they were sufficiently familiar with the WSUSOM graduate to respond to the question list. Both DMEs were interviewed--1 in person and 1 by telephone. Table 1 summarizes the interviews conducted.

Table 2 reports the specialties in which Class of 1980 graduates were involved during their first year of residency. In reporting results, four groups will be referenced: all residents (N = 31), family practice residents (N = 13), primary care residents (N = 21), and nonprimary care residents (N = 10). These four groups are used in the analysis because they contain a sufficient number of residents for meaningful interpretation and because in dealing with larger groups, individual identification is protected.

Similarly, Table 3 reports the residency supervisors by specialty of graduates. As with graduates, the same groups will be referenced in the analysis--all supervisors (N = 25), family practice supervisors (N = 8), primary care supervisors (N = 14), and nonprimary care supervisors (N = 11).

Assessment of Competence

Question No. 1 asked graduates if they believed they were adequately prepared for their first year of residency in four areas: knowledge of medicine, psychomotor skills, clinical problem-solving, and interpersonal relations and communication skills with patients. Table 4 reports the results.

Members of the Class of 1980 perceived themselves to be well prepared for the first year of residency. The mean percent row in Table 4 shows that as a group they were very positive in rating their preparation for the first year of residency--79 percent positive, 18 percent marginal, and 3 percent negative. There was no difference among family practice/primary care and nonprimary care in mean percent. In examining the four components of competence, some trends appeared:

TABLE 1: Interviews Conducted

	Graduates - Class of 1980	Residency Program Directors or Delegated Supervisors	Directors of Medical Education	TOTAL
No. eligible for interview	31	23	2	56
No. interviewed	31	23	2	56
No. interviewed in person	21	12	1	34
No. interviewed by telephone	10	11	1	22

TABLE 2: Specialties of Class of 1980
(First Year of Residency Training)

Primary Care	No.	Nonprimary Care	No.
Family Practice	13	Emergency Medicine	1
Internal Medicine	4	Flexible	1
Pediatrics	4	Pathology	1
TOTAL	21	Radiology	1
		Psychiatry	2
		Surgery	4
		TOTAL	10

TABLE 3: Residency Supervisors by Specialty of Graduates

Primary Care	No.	Nonprimary Care	No.
Family Practice	8	Emergency Medicine	1
Internal Medicine	3	Flexible	1
Pediatrics	3	Pathology	1
TOTAL	14	Radiology	1
		Psychiatry	3
		Surgery	4
		TOTAL	11

TABLE 4: Do you believe you were adequately prepared for your first year of residency?

	YES				MARGINAL				NO			
	FP[1]	PC[2]	NPC[3]	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL
Knowledge of medicine	8 (62%)	15 (71%)	8 (80%)	23 (74%)	3 (23%)	4 (19%)	2 (20%)	6 (19%)	2 (15%)	2 (10%)	0 (0%)	2 (6%)
Psychomotor skills	10 (77%)	14 (67%)	6 (60%)	20 (65%)	3 (23%)	6 (29%)	4 (40%)	10 (32%)	0 (0%)	1 (5%)	0 (0%)	1 (3%)
Clinical problem-solving	10 (77%)	17 (81%)	8 (80%)	25 (81%)	3 (23%)	3 (14%)	2 (20%)	5 (16%)	0 (0%)	1 (5%)	0 (0%)	1 (3%)
Interpersonal relations and communication skills with patients	12 (92%)	20 (95%)	10 (100%)	30 (97%)	1 (8%)	1 (5%)	0 (0%)	1 (3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Mean percent	(77%)	(79%)	(80%)	(79%)	(19%)	(17%)	(20%)	(18%)	(4%)	(5%)	(0%)	(3%)

[1] FP = Family Practice
[2] PC = Primary Care (Family Practice, Internal Medicine, Pediatrics)
[3] NPC = Nonprimary Care

1. Nonprimary care residents felt better prepared than family practice residents in knowledge of medicine (80% positive versus 62% positive).*
2. Family practice residents felt better prepared than nonprimary care residents in psychomotor skills (77% positive versus 60% positive).
3. As a group graduates were most positive about their preparation for interpersonal relations and communication skills with patients (97%). Clinical problem-solving was second with a positive rating of 81%, followed by knowledge of medicine (74%), and psychomotor skills (65%).

Table 5 reports the assessment of graduates as first-year residents by their supervisors. Five supervisors answered in a group manner. That is, these five supervisors had more than one graduate in their residencies and thus responded for two or more graduates as an aggregate.

The supervisors believed WSUSOM graduates to be well-prepared for the first year of residency. The mean percent row in Table 5 shows that supervisors were very positive in rating the preparation of graduates--87 percent positive, 4 percent marginal, 6 percent negative, and 3 percent not sure. Some trends and comparisons follow:

1. Positive assessments by supervisors and graduates agreed in three areas: interpersonal relations and communication skills with patients (92% and 97%); clinical problem-solving (88% and 81%); and psychomotor skills (72% and 65%). However, supervisors were more likely to approve of the graduate's knowledge of medicine than was the graduate (96% versus 74%).
2. No primary care resident was rated negatively in any of the four components of competence, but notably nonprimary care residents were rated negatively in psychomotor skills (27%).
3. Primary care residents were more frequently rated positively than nonprimary care residents in interpersonal relations and communication skills with patients (100% versus 82%).

Did graduates and supervisors agree on their ratings? In making their ratings, 5 of 25 supervisors did not respond to an individual resident, but rather in the case of 4 supervisors to an aggregate of 2 residents and in the case of 1 supervisor to an aggregate of 5 residents. Thus, for the 34 comparisons be-

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*Throughout this report in making comparisons, 15 percent is judged artitrarily to be a noteworthy difference.

TABLE 5: Do you believe WSUSOM graduates are adequately prepared for their first year residency?

	YES				MARGINAL				NO				NOT SURE			
	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL
Knowledge of medicine	8 (100%)	14 (100%)	10 (91%)	24 (96%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (9%)	1 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Psychomotor skills	5 (63%)	11 (79%)	7 (64%)	18 (72%)	2 (25%)	2 (14%)	0 (0%)	2 (8%)	0 (0%)	0 (0%)	3 (27%)	3 (12%)	1 (13%)	1 (7%)	1 (9%)	2 (8%)
Clinical problem-solving	7 (88%)	12 (86%)	10 (91%)	22 (88%)	1 (13%)	2 (14%)	0 (0%)	2 (8%)	0 (0%)	0 (0%)	1 (9%)	1 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Interpersonal relations & communication skills	8 (100%)	14 (100%)	9 (82%)	23 (92%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (9%)	1 (4%)	0 (0%)	0 (0%)	1 (9%)	1 (4%)
Mean percent	88%	91%	82%	87%	9%	7%	0%	4%	0%	0%	14%	6%	3%	2%	5%	3%

tween graduates and supervisor ratings, 21 were individual ratings and 13 were aggregate ratings. Table 6 reports the results. Graduates and supervisors agreed 71.3 percent of the time. They were in mild disagreement (i.e., yes--marginal or no--marginal) 16.9 percent of the time and in strong disagreement (i.e., yes--no) 6.6 percent of the time. The not sure and equivocal responses totalled to 5.1 percent. Agreement was very high for interpersonal relations and communication skills with patients (91.2%) and lowest for psychomotor skills (52.9%). There were 9 strong disagreement comparisons--5 in which the supervisor responded yes, the graduate was adequately prepared in one of the four areas of competence, but the graduate responded no, he/she was not adequately prepared in that area; and 4 in which graduates responded yes and supervisors no. In addition, there were 2 responses of marginal by graduates where supervisors responded no.

TABLE 6: Comparison of Graduate and Supervisor Ratings

	Agreement	Mild Disagreement	Strong Disagreement	Not Sure or Equivocation
Knowledge of medicine	25 (73.5%)	5 (14.7%)	4 (11.8%)	0 (0.0%)
Psychomotor skills	18 (52.9%)	10 (29.4%)	2 (5.9%)	4 (11.8%)
Clinical problem-solving	23 (67.6%)	8 (23.5%)	2 (5.9%)	1 (2.9%)
Interpersonal relations & communication skills with patients	31 (91.2%)	0 (0.0%)	1 (2.9%)	2 (5.9%)
TOTAL	97 (71.3%)	23 (16.9%)	9 (6.6%)	7 (5.1%)

As part of question No. 1, graduates were asked to what they attributed identified weaknesses. The observations of graduates can be grouped into three categories. First, to some extent a number of graduates accepted personal responsibility for their weaknesses with such comments as:

"I am a slow reader; I do not like to study."

"My weaknesses are partly due to my own lack of self-initiative."

"I didn't read enough."

Second, graduates cited overall curriculum weaknesses and used adjectives such as "unsettled", "disjointed", and "haphazard". Of particular concern was the lack of an organized program for teaching the history and physical examination and for teaching physical diagnosis. Third, the majority of comments focused on various inadequacies in the clinical education program: (1) insufficient patient contact and clinical experience, (2) limited responsibility for patient care, (3) clinical instructors who were inexperienced, too few in number, or unwilling/unable to spend sufficient time to teach medical students, (4) lack of opportun-

ity to perform procedures (e.g., start IVs, draw blood), and (5) resistance to the inclusion of student work-ups and other student entries in the patient's record. In addition, a few graduates pointed out that without a preceding class from which to take the lead in shaping one's educational activities, medical students lacked peer models and awareness of how assertive one could be in pursuing his/her training. Similarly it was noted that faculty, in teaching WSUSOM's first class, did not have the advantage of clinical teaching experience in the WSUSOM program on which to draw in shaping their efforts.

In their comments related to the weaknesses they had identified, supervisors tended to make evaluative observations about individual residents. The substance of these comments are not relevant to this report. Since most supervisors were not familiar with the WSUSOM curriculum, they, for the most part, could not relate weaknesses to curricular deficiencies. In a comment analogous to those made by some graduates, one program director, while complimenting WSUSOM in preparing graduates, noted that any deficiencies in the WSUSOM program might be traced to the Class of 1980 being the charter class. He observed that class members had no student predecessors for models and were instructed by faculty members who were relatively inexperienced in teaching. The area of psychomotor skills was the component of competence most frequently assessed negatively. When asked to identify specific psychomotor skill weaknesses, supervisors mentioned cutdowns, intubation, lumbar puncture, manual aspects of the physical examination, and surgical skills.

Question No. 2 asked graduates how they compared with first-year residents from other medical school in the four areas mentioned in question No. 1. Table 7 reports the results. It was expected that <u>better than</u> would be a socially undesirable response* and thus chosen seldomly. However, graduates were not reluctant to choose <u>better than</u> for interpersonal relations and communication skills with patients. This indicates that the social desirability response tendency was apparently not operating extensively.

Graduates saw themselves as equal to or better than other first-year residents to a substantial degree; 85 percent chose these two responses when the four areas of competence were totalled. There was no mean percent difference between family practice/primary care and nonprimary care. In examining the four components of competence, these trends appeared:

1. Family practice residents (77%) and primary care residents (71%) were more likely than nonprimary care residents (50%) to perceive themselves as better than first-year residents from other medical schools in interpersonal relations and communication skills with patients.

2. Nonprimary care residents (25%) were more likely than primary care residents (10%) to perceive themselves as better than first-year residents from other medical schools in clinical problem-solving.

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*In attitude survey research, social desirability (undesirability) is the tendency of a respondent to make a choice (or avoid a choice) on the basis of acceptable patterns of response within his/her personal social setting.

TABLE 7: How do you compare with first-year residents from other medical schools?

	BETTER THAN				EQUAL				NOT AS GOOD				NOT SURE			
	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL
Knowledge of medicine	1 (8%)	1.5* (7%)	.5 (5%)	2 (8%)	10 (77%)	17.5 (83%)	6.5 (65%)	24 (77%)	2 (15%)	2 (10%)	1 (10%)	3 (10%)	0 (0%)	0 (0%)	2 (20%)	2 (6%)
Psychomotor skills	. 3 (23%)	3 (14%)	1.5 (15%)	4.5 (15%)	7 (54%)	12 (57%)	6.5 (65%)	18.5 (60%)	3 (23%)	6 (29%)	2 (20%)	8 (26%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Clinical problem-solving	2 (15%)	2 (10%)	2.5 (25%)	4.5 (15%)	9 (69%)	15 (71%)	6.5 (65%)	21.5 (69%)	2 (15%)	4 (19%)	1 (10%)	5 (16%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Interpersonal relations & communication skills	10 (77%)	15 (71%)	5 (50%)	20 (65%)	3 (23%)	6 (29%)	5 (50%)	11 (35%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 0(%)	0 (0%)
Mean percent	31%	26%	24%	25%	56%	60%	61%	60%	13%	14%	10%	13%	0%	0%	5%	2%

* In a few cases graduates equivocated between better than and equal. In these cases one-half was assigned to each rating.

3. Consistent with question No. 1 in which graduates rated their adequacy of preparation, interpersonal relations and communication skills with patients was most highly rated; 65 percent thought they were better than first-year residents from other medical schools.

4. Few graduates rated themselves better than first-year residents from other medical schools in the other three areas of competence--psychomotor skills (15%), clinical problem-solving (15%), and knowledge of medicine (8%).

5. Graduates were more likely to rate themselves not as good as first-year residents from other medical schools in psychomotor skills (26%) than the other three areas (0% to 10%).

Table 8 shows that supervisors rated first-year residents from WSUSOM better than or equal to first-year residents from other medical schools 85 percent of the time. The response of graduates yielded an identical 85 percent (see Table 7). For supervisors comparisons among the four components of competence include:

1. Supervisors of primary care residents (43%) were more likely than supervisors of nonprimary care residents (27%) to rate graduates better than first-year residents from other medical schools in knowledge of medicine.

2. Supervisors of family practice residents (25%) and primary care residents (36%) were more likely than supervisors of nonprimary care residents (9%) to rate graduates better than first-year residents from other medical schools in psychomotor skills.

3. Supervisors rated interpersonal relations and communication skills with patients highest (52% better than, 92% better than or equal). Second highest was knowledge of medicine (36% better than, 96% better than or equal). Clinical problem-solving was rated third (32% and 80%), and psychomotor skills fourth (24% and 72%).

4. Negative ratings (i.e., not as good) were made 20 percent of the time for both psychomotor skills and clinical problem-solving.

5. In two areas supervisors rated graduates better than first-year residents from other medical schools more frequently than graduates chose the better than response for themselves: knowledge of medicine (36% versus 8%) and clinical problem-solving (32% versus 15%).

TABLE 8: How do you compare first-year residents from WSUSOM with first year residents from other medical schools?

	BETTER THAN				EQUAL				NOT AS GOOD				NOT SURE			
	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL
Knowledge of medicine	3 (38%)	6 (43%)	3 (27%)	9 (36%)	5 (63%)	8 (57%)	7 (64%)	15 (60%)	0 (0%)	0 (0%)	1 (9%)	1 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Psychomotor skills	2 (25%)	5 (36%)	1 (9%)	6 (24%)	3 (38%)	6 (43%)	6 (55%)	12 (48%)	2 (25%)	2 (14%)	3 (27%)	5 (20%)	1 (13%)	1 (7%)	1 (9%)	2 (8%)
Clinical problem-solving	2 (25%)	4 (29%)	4 (36%)	8 (32%)	4 (50%)	7 (50%)	5 (45%)	12 (48%)	2 (25%)	3 (21%)	2 (18%)	5 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Interpersonal relations & communication skills	5 (63%)	7 (50%)	6 (55%)	13 (52%)	3 (38%)	7 (50%)	3 (27%)	10 (40%)	0 (0%)	0 (0%)	1 (9%)	1 (4%)	0 (0%)	0 (0%)	1 (9%)	1 (4%)
Mean percent	38%	39%	32%	36%	47%	50%	48%	49%	13%	9%	16%	12%	3%	2%	5%	3%

Question No. 3 was open-ended and related to question No. 2. It asked graduates if they were different from first-year residents from other medical schools in addition to the four areas compared previously. There were a large number of comments related to graduates having a greater sensitivity to the behavioral and psychosocial aspects of patient care. Graduates frequently mentioned a strong interest in and well-developed capability for listening to patients and treating the whole person and his/her problems. These comments are consistent with the high ratings given interpersonal relations and communication skills with patients in questions Nos. 1 and 2. The next most frequent set of comments related to clinical experience and skills. A number of graduates mentioned feeling less clinically experienced and capable than their first-year colleagues from other medical schools. However, a notable, but somewhat smaller, group expressed the contrary view of feeling as if they had had more hands-on clinical experience prior to beginning residency training. Finally, an interesting set of observations focused on a greater ease and comfort level in associating with and approaching supervisors. Many felt that the open and receptive attitude of WSUSOM faculty and administrators had been helpful in making them feel less distant from supervisors, less fearful of the power structure, and more likely to approach supervisors with issues or problems.

Supervisors also responded to question No. 3 dealing with additional ways in which WSUSOM graduates differed from first-year residents from other medical schools. A number of supervisors mentioned the WSUSOM graduate's highly developed interpersonal skills and interest in patient concerns and needs. Various supervisors felt that WSUSOM graduates were more highly motivated, more mature in pursuit of goals, and more self-directed in their learning. On the negative side a number of supervisors concurred with the view of many graduates in observing that graduates sometimes were reluctant to act independently due to limited clinical experiences and opportunity to assume clinical responsibility as a WSUSOM medical student.

Practice of Humanistic Medicine

Question No. 4 focused on one of WSUSOM's fundamental objectives--graduates who practice humanistic medicine (see Appendix A for the description of humanistic medicine). Graduates were asked if they were different from first-year residents from other medical schools in the practice of humanistic medicine. Table 9 reports the results. It is reasonable to assume that social desirability would inhibit greatly the choice of less humanistic, and, in fact, no graduate said he was less humanistic than first-year residents from other medical schools. However, social desirability would seem also to have an inhibiting effect on the choice of more humanistic. Such was not the case. Over one-half of the graduates (53%) said they were more humanistic than their first-year colleagues from other medical schools. One hundred percent chose more humanistic or about the same.

Nonprimary care residents (70%) perceived themselves as more humanistic than first-year residents from other medical schools more frequently than their family practice (50%)/primary care (45%) classmates. This finding seems surprising in that family practice/primary care physicians are popularly perceived as especially humanistic in their practice of medicine. The apparent difference between primary care and nonprimary care graduates (45% versus 70%) may be a consequence of different reference groups. If, in fact, primary care physicians are strongly humanistic, then the tendency may have been for the primary care graduate more

often to rate himself/herself as about the same rather than more humanistic. Similarly, the nonprimary care graduate, fresh from a medical school where humanistic medical practice is stressed, may have been comparing himself/herself with a reference group which was not as humanistic as the primary care reference group. Thus, despite the 25% difference, the two groups of graduates may very well be identical in their actual practice of humanistic medicine.

Likewise Table 10 shows that supervisors rated graduates highly in the practice of humanistic medicine. Nearly one-half of the supervisors (48%) rated first-year residents from WSUSOM more humanistic than first-year residents from other medical schools, and 88 percent chose the more humanistic or about the same rating. However, unlike graduate ratings in which nonprimary care residents rated themselves more highly than primary care residents, supervisors of primary care residents rated graduates positively more frequently (57% more humanistic, 100% more humanistic or about the same) than supervisors of nonprimary care residents (36% and 72%).

In addition, as part of question No. 4, graduates were asked in what ways they were different from first-year residents from other medical school in the practice of humanistic medicine. The comments of graduates did not focus predominantly on any one of the six phrases listed in Appendix A to describe humanistic medicine, but rather in a general sense expressed their experiences in demonstrating involvement with and concern for their patients. Typical quotes included:

> "With one recent case my surgical workup was so patient-oriented that my supervisor, who was contemplating a psychiatric referral, said, 'No need, you did it already.'"
>
> "I spend more time talking with patients than other first-year residents."
>
> "In my specialty it is easy to overlook patients but I do not."
>
> "I am more aware of how disease affects lifestyle."

In addressing this question, many graduates acknowledged the impact of the WSUSOM program in promoting the practice of humanistic medicine; however, nearly an equal number felt that factors extraneous to WSUSOM were responsible for the graduate's practice of humanistic medicine (e.g., life experiences, older age than the typical student at medical school matriculation). Also, a frequent comment was that while graduates felt they practiced humanistic medicine adequately, they believed the pressures of the residency program and the need to attend to the patient's physical needs inhibited more extensive practice of humanistic medicine on their part.

In their comments about the practice of humanistic medicine by WSUSOM graduates, supervisors highlighted the various criteria listed in question No. 4 with no special emphasis on any one criterion. Specific comments included references to concern for the needs of individual patients (mentioned 4 times), tolerance of alternative values and lifestyles (mentioned 3 times), and mentioned once each--spending more time with patients, interest in holistic medicine, demonstrating kindness and patience, handling difficult patients well, and involving the patient in decision-making.

TABLE 9: Are you different from first-year residents from other medical schools in the practice of humanistic medicine?

	More humanistic		About the same		Less humanistic	
Family Practice	6.5*	(50%)	6.5	(50%)	0	(0%)
Primary Care	9.5	(45%)	11.5	(55%)	0	(0%)
Nonprimary Care	7	(70%)	3	(30%)	0	(0%)
TOTAL	16.5	(53%)	14.5	(47%)	0	(0%)

*In one case the graduate equivocated between more humanistic and about the same. Thus, one-half was assigned to each rating.

TABLE 10: Are first-year residents from WSUSOM different from first-year residents from other medical schools in the practice of humanistic medicine?

	MORE HUMANISTIC		ABOUT THE SAME		LESS HUMANISTIC		NOT SURE	
Family Practice	5	(63%)	3	(38%)	0	(0%)	0	(0%)
Primary Care	8	(57%)	6	(43%)	0	(0%)	0	(0%)
Nonprimary Care	4	(36%)	4	(36%)	1	(9%)	2	(18%)
TOTAL	12	(48%)	10	(40%)	1	(4%)	2	(8%)

Self-directed Learning and Lifelong Professional Learning

Question No. 5 asked about two other important objectives of WSUSOM--the development of physicians who are self-directed in their learning and who have a strong interest in lifelong professional learning. Graduates were asked whether the WSUSOM program promoted, hindered, or did not affect the development of these two characteristics. Tables 11 and 12 report the results. Table 11 shows that graduates strongly endorsed the WSUSOM program as promoting the development of self-directed learning. The percent of graduates choosing the promoted response was 82 while 15 percent chose not affected and 3 percent were not sure. No graduate felt that the WSUSOM program hindered the development of self-directed learning in him/her. There was no difference between family practice/primary care and nonprimary care.

Graduates were asked in what ways the WSUSOM program had promoted or hindered the development of self-directed learning in them. For the most part, graduates made general comments in response with many endorsing the impact of the WSUSOM program in promoting self-directed learning. However, some felt that self-directed learning was either developed prior to matriculating at WSUSOM or developed independently with WSUSOM having little or no influence. Those who made specific comments about the WSUSOM program being influential in the development of self-directed learning named the Year 4 selectives (mentioned by three graduates), overall clinical experience (mentioned by two graduates), and Community Medicine, Medicine in Society, Physiology, and the school emphasis on learning objectives (each mentioned by one graduate). One graduate observed that self-directed learning was promoted by the fact that as a charter class, the Class of 1980 was called upon to "make the school work." On the negative side a few graduates believed self-directed learning was hindered by massive required reading and study assignments, especially in Year 3 when the opportunity for self-directed learning was heightened.

Table 12 shows that 61 percent of graduates believed the WSUSOM program promoted the development of lifelong professional learning while 29 percent believed that WSUSOM had no effect and 10 percent were not sure. No graduate felt that the WSUSOM program hindered lifelong professional learning. The 61 percent positive response is a strong endorsement in that, even more so than self-directed learning, the trait of lifelong professional learning is more likely to be developed over an extended period of time and less influenced by a specific training program. The comments of graduates were very general and tended simply to reflect the quantitative results. Only two graduates singled out a specific contribution to the development of lifelong learning; both cited the availability of free access to students of WSUSOM continuing medical education programs.

As part of question No. 5 graduates were asked if they were different from first-year residents from other medical schools in the areas of self-directed learning and lifelong professional learning. Tables 13 and 14 report the results. Table 13 shows that over three-quarters of the graduates (77%) believed they were about the same as first-year residents from other medical schools in self-directed learning while 16 percent felt they were more skilled and 6 percent were not sure. No graduate felt he/she was less skilled in self-directed learning than his/her colleagues. In interpreting the results, three explanations surface. First, graduates made an accurate estimate of their relative standing with regard to self-directed learning, and in fact, 77 percent saw themselves as equal and 93 percent saw themselves as equal or more skilled. Second, social desirability inhibited

TABLE 11: Has the WSUSOM program promoted, hindered, or not affected the development of self-directed learning in you?

	Promoted	Hindered	Not Affected	Not Sure
Family Practice	11 (85%)	0 (0%)	2 (15%)	0 (0%)
Primary Care	17.5* (83%)	0 (0%)	3.5 (17%)	0 (0%)
Nonprimary Care	8 (80%)	0 (0%)	1 (10%)	1 (10%)
TOTAL	25.5 (82%)	0 (0%)	4.5 (15%)	1 (3%)

*In one case, the graduate equivocated between promoted and not affected. Thus, one-half was assigned to each rating.

TABLE 12: Has the WSUSOM program promoted, hindered, or not affected the development of lifelong professional learning in you?

	PROMOTED	HINDERED	NOT AFFECTED	NOT SURE
Family Practice	7 (54%)	0 (0%)	4 (31%)	2 (15%)
Primary Care	13 (62%)	0 (0%)	6 (29%)	2 (10%)
Nonprimary Care	6 (60%)	0 (0%)	3 (30%)	1 (10%)
TOTAL	19 (61%)	0 (0%)	9 (29%)	3 (10%)

TABLE 13: Are you different from first-year residents from other medical schools in self-directed learning?

	MORE SKILLED		ABOUT THE SAME		LESS SKILLED		NOT SURE	
Family Practice	2	(15%)	11	(85%)	0	(0%)	0	(0%)
Primary Care	3	(14%)	18	(86%)	0	(0%)	0	(0%)
Nonprimary Care	2	(20%)	6	(60%)	0	(0%)	2	(20%)
TOTAL	5	(16%)	24	(77%)	0	(0%)	2	(6%)

TABLE 14: Are you different from other first-year residents in life-long professional learning?

	MORE INTERESTED		ABOUT THE SAME		LESS INTERESTED		NOT SURE	
Family Practice	1	(8%)	12	(92%)	0	(0%)	0	(0%)
Primary Care	1	(5%)	18	(86%)	0	(0%)	2	(10%)
Nonprimary Care	3	(30%)	5	(50%)	0	(0%)	2	(20%)
TOTAL	4	(13%)	23	(74%)	0	(0%)	4	(13%)

the choice of more skilled and less skilled, and thus, the results are not especially accurate. Third, lack of information about the self-directed learning ability of other first-year residents caused graduates to choose the "safe" response of about the same, and thus the results are not especially accurate. In what way the three explanations combined to yield the results is speculative.

Table 15 reports supervisor assessments of WSUSOM graduates as self-directed learners in comparison with first-year residents from other medical schools. Twenty-eight percent thought graduates were more skilled, 48 percent about the same, 8 percent less skilled, and 16 percent were not sure. Nonprimary care supervisors (45%) were more likely to view their residents as more skilled in self-directed learning than primary care supervisors (14%). This trend was not evident for ratings by graduates. Other differences between the ratings of graduates and supervisors were minor.

Table 14 shows that about three-quarters of the graduates (74%) believed they were about the same as first-year residents from other medical schools in interest in lifelong learning while 13 percent felt they were more interested and 13 percent were not sure. No graduate felt he/she was less interested in lifelong learning than his/her colleagues. These results are very similar to the part of question No. 5 which asked graduates to compare themselves with peers with regard to self-directed learning (see Table 13), and the three possible explanations proferred earlier can be made here as well.

Table 16 shows that supervisor ratings for lifelong professional learning were similar to their self-directed learning ratings. Thirty-two percent of supervisors viewed first-year residents from WSUSOM as more interested in lifelong professional learning than first-year residents from other medical schools, and 40 percent chose about the same. The remaining 28 percent mostly chose not sure (24%); only 1 resident was judged to be less interested (4%). Supervisors were more likely than graduates to choose the more interested rating (32% versus 13%). As was the case with self-directed learning, nonprimary care supervisors (55%) were more likely to view their residents as more interested in lifelong professional learning than primary care supervisors (14%).

Graduate's Evaluation of the WSUSOM Curriculum

Questions Nos. 6 and 7 related to the graduate's evaluation of the basic science component of the WSUSOM curriculum. In question No. 6 graduates were asked if their basic science courses in Biennium 1 provided them with the basic understanding of the disciplines which underlie clinical medicine. Table 17 reports the results. Graduates strongly endorsed their basic science courses with 81 percent approving, 10 percent marginal, and 9 percent disapproving. Primary care residents (87%) more frequently approved than nonprimary care residents (70%).

In question No. 7 graduates were asked if there are any basic science areas in which insufficient knowledge hinders their development as physicians. Table 18 reports the results. Nearly one-third of the graduates (31%) indicated that there were basic science areas in which insufficient knowledge hindered their development as a physician. Family practice residents were more likely to indicate areas of insufficient knowledge (50%) than nonprimary care residents (30%); however, when the marginal and not sure responses for nonprimary care residents are

TABLE 15: Are first-year residents from WSUSOM different from first-year residents from other medical schools in self-directed learning?

	MORE SKILLED		ABOUT THE SAME		LESS SKILLED		NOT SURE	
Family Practice	2	(25%)	5	(63%)	1	(13%)	0	(0%)
Primary Care	2	(14%)	8	(57%)	2	(14%)	2	(14%)
Nonprimary Care	5	(45%)	4	(36%)	0	(0%)	2	(18%)
TOTAL	7	(28%)	12	(48%)	2	(8%)	4	(16%)

TABLE 16: Are first-year residents from WSUSOM different from first-year residents from other medical schools in life-long professional learning?

	MORE INTERESTED		ABOUT THE SAME		LESS INTERESTED		NOT SURE	
Family Practice	2	(25%)	4	(50%)	0	(0%)	2	(25%)
Primary Care	2	(14%)	7	(50%)	1	(7%)	4	(29%)
Nonprimary Care	6	(55%)	3	(27%)	0	(0%)	2	(18%)
TOTAL	8	(32%)	10	(40%)	1	(4%)	6	(24%)

TABLE 17: Did the basic science courses in Biennium 1 provide you with the basic understanding of the disciplines which underlie clinical medicine?*

	YES	MARGINAL	NO
Family Practice	9.5** (79%)	1 (8%)	1.5 (13%)
Primary Care	16.5 (87%)	1 (5%)	1.5 (8%)
Nonprimary Care	7 (70%)	2 (20%)	1 (10%)
TOTAL	23.5 (81%)	3 (10%)	2.5 (9%)

*Two graduates completed basic science courses at other medical schools and thus were not included in this analysis.

**One graduate equivocated between yes and no and thus one-half was assigned to each rating.

TABLE 18: Are there basic science areas in which insufficient knowledge hinders your development as a physician?

	YES	MARGINAL	NO	NOT SURE
Family Practice	6 (50%)	0 (0%)	6 (50%)	0 (0%)
Primary Care	6 (32%)	0 (0%)	13 (68%)	0 (0%)
Nonprimary Care	3 (30%)	2 (20%)	4 (40%)	1 (10%)
TOTAL	9 (31%)	2 (7%)	17 (59%)	1 (3%)

taken into consideration, there may be little difference between the two resident categories.

The specific areas of insufficient knowledge indicated by residents were based on their experiences between September 1976 and June 1978. Many of the courses/programs containing these areas have undergone considerable change since that time period; thus, no mention will be made of specific basic science courses/programs in this report. Of most interest among the comments of graduates were the frequent observations that basic science content was often not relevant to their practice of medicine as a first-year resident and that basic science material could have been more clinically useful. Illustrative comments include:

> "Seventy-five percent of . . . is not used in my medical practice."
>
> "Basic sciences could have done better relating information to clinical application."
>
> "Basic sciences could have dealt with clinically related topics--e.g., EKGs, nutrition, human sexuality."
>
> "We were not taught the practical use of laboratory data."

In addition, several graduates felt the amount of basic science material was excessive, or, to use one graduate's term, overkill.

Question No. 8 asked about major components in the Biennium 1 curriculum other than basic science courses--Introduction to Clinical Medicine (ICM), Behavioral Science, Medicine in Society (MIS), and Biennium 1 selectives. Graduates were asked if each of the four course sequences were valuable to them. Table 19 reports the results. The endorsement rates for the four components ranged from fairly high to moderate: Biennium 1 selectives (70%), Introduction to Clinical Medicine (69%), Behavioral Science (62%), and Medicine in Society (55%). The negative reaction ranged from low to very low: Behavioral Science (17%), Medicine in Society (14%), Biennium 1 selectives (13%), and Introduction to Clinical Medicine (3%). Trends with regard to specialty were:

1. Family practice/primary care residents more frequently endorsed ICM, Behavioral Science, and Biennium 1 selectives than MIS.
2. Nonprimary care residents rated ICM (70%) more highly than Behavioral Science (50%) and Biennium 1 selectives (50%).
3. In comparison with nonprimary care residents, family practice/ primary care residents more frequently endorsed Behavioral Science (83% and 68% versus 50%) and Biennium 1 selectives (77% and 80% versus 50%).

The comments of graduates related to question No. 8 included a variety of both positive and critical observations. Concerning Introduction to Clinical Medicine graduates mentioned the value of patient contact early in one's medical

TABLE 19: Were each of the following Biennium 1 course sequences valuable to you?*

	YES				MARGINAL				NO				NOT SURE			
	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL
Introduction to Clinical Medicine	10 (83%)	13 (68%)	7 (70%)	20 (69%)	2 (17%)	5 (26%)	2 (20%)	7 (24%)	0 (0%)	1 (5%)	0 (0%)	1 (3%)	0 (0%)	0 (0%)	1 (10%)	1 (3%)
Behavioral Science	10 (83%)	13 (68%)	5 (50%)	18 (62%)	2 (17%)	3 (16%)	2 (20%)	5 (17%)	0 (0%)	3 (16%)	2 (20%)	5 (17%)	0 (0%)	0 (0%)	1 (10%)	1 (3%)
Medicine in Society	7 (58%)	10 (53%)	6 (60%)	16 (55%)	5 (42%)	7 (37%)	2 (20%)	9 (31%)	0 (0%)	2 (11%)	2 (20%)	4 (14%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Biennium 1 Selectives	10 (77%)	16 (80%)	5 (50%)	21 (70%)	1 (8%)	1 (5%)	2 (20%)	3 (10%)	2 (15%)	3 (15%)	1 (10%)	4 (13%)	0 (0%)	0 (0%)	2 (20%)	2 (7%)
Mean percent	76%	68%	58%	64%	20%	21%	20%	21%	4%	12%	13%	12%	0%	0%	10%	3%

*One graduate transfered to WSUSOM at the beginning of Biennium 2 and thus did not enroll for Biennium 1 courses. Another graduate who transferred to WSUSOM enrolled only in the Biennium 1 selectives and not the other three course sequences.

school career, but there was also an element of criticism in the call for more history and physical examination/physical diagnosis experience. One graduate noted that while ICM was a vital course, he and many of his classmates did not give it proper attention due to competition from courses taking place simultaneously which carried more credit hours and more study and performance demands.

Graduates were more pleased with Behavioral Science when it emphasized personal/social development and common clinical problems with psychological elements. They were less pleased with presentations which dealt with theories of psychiatric therapies. One graduate stated:

> "In Behavioral Science communication, leadership, and counseling skills were quite helpful and are used daily in my residency."

Graduates stated that they drew upon their Medicine in Society courses for the legal, social, and ethical aspects of their residency. Two quotes related to MIS follow:

> "MIS got me thinking of things besides medicine and fit into the development of the humanistic physician."
>
> "I can't quantify what I learned in MIS, but I feel more secure as a result."

While graduates would occasionally cite a Biennium 1 selective which they thought was of no value, they frequently supported the concept and spoke positively:

> "The selectives kept me in school. I loved them. It was great to get out of the classroom and learn firsthand."
>
> "Selectives were helpful in developing a lifelong learning characteristic."

In question No. 9 graduates were asked if the major Year 3 clerkships adequately prepared them for their first year of residency. Table 20 reports the results. The overall approval rate for the six major Year 3 clerkships was 67 percent. Obstetrics/gynecology was most frequently approved (87%). Following obstetrics/gynecology three clerkships were grouped together by approval rate--surgery (74%), pediatrics (71%), and medicine (65%). Psychiatry (55%) and family practice (48%) were the least approved clerkships. Similarly psychiatry (32%) and family practice (23%) were the two clerkships receiving noteworthy disapproval rates. Trend by specialty were:

1. Residents in family practice (69%)/primary care (57%) were more likely to approve the family practice clerkship than nonprimary care residents (30%).
2. Residents in family practice (92%)/primary care (81%) were more likely to approve the surgery clerkship than nonprimary care residents (60%).

TABLE 20: Did the major Year 3 clerkships adequately prepare you for your first year of residency?

	YES				MARGINAL				NO				NOT SURE			
	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL
Family Practice	9 (69%)	12 (57%)	3 (30%)	15 (48%)	1 (8%)	4 (19%)	4 (40%)	8 (26%)	3 (23%)	5 (24%)	2 (20%)	7 (23%)	0 (0%)	0 (0%)	1 (10%)	1 (3%)
Medicine	7 (54%)	14 (67%)	6 (60%)	20 (65%)	5 (38%)	6 (29%)	2 (20%)	8 (26%)	1 (8%)	1 (5%)	2 (20%)	3 (10%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Obstetrics/ Gynecology	12 (92%)	18 (86%)	9 (90%)	27 (87%)	1 (8%)	2 (10%)	0 (0%)	2 (6%)	0 (0%)	1 (5%)	0 (0%)	1 (3%)	0 (0%)	0 (0%)	1 (10%)	1 (3%)
Pediatrics	8 (62%)	14 (67%)	8 (80%)	22 (71%)	3 (23%)	5 (24%)	1 (10%)	6 (19%)	1 (8%)	1 (5%)	0 (0%)	1 (3%)	1 (8%)	1 (5%)	1 (10%)	2 (6%)
Psychiatry	7 (54%)	11 (52%)	6 (60%)	17 (55%)	2 (15%)	3 (14%)	1 (10%)	4 (13%)	4 (31%)	7 (33%)	3 (30%)	10 (32%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Surgery	12 (92%)	17 (81%)	6 (60%)	23 (74%)	1 (8%)	4 (19%)	2 (20%)	6 (19%)	0 (0%)	0 (0%)	1 (10%)	1 (3%)	0 (0%)	0 (0%)	1 (10%)	1 (3%)
Mean percent	71%	68%	63%	67%	17%	19%	17%	18%	12%	12%	13%	12%	1%	1%	7%	3%

3. Nonprimary care residents (80%) were more likely to approve the pediatrics clerkship than family practice residents (62%).

As part of question No. 9 graduates were asked to what they attributed the weaknesses they identified. The comments reveal the reasons for the lower approval rates and noteworthy disapproval rates for the psychiatry and family practice clerkships. Graduates objected very strongly to the family practice clerkship scheduling of intermittent one-week experiences expressing the belief that this caused lack of continuity of patient care. (This type of scheduling has been discontinued by the family practice clerkship) The most common objection to the psychiatry clerkship was its length. Many graduates felt the three-week experience to be too short for a major clerkship. (The psychiatry clerkship has been lengthened to five weeks) Additionally, a number of graduates thought the psychiatry clerkship (1) did not provide sufficient experience in outpatient care, (2) did not relate well to the practice of the primary care physician, and (3) did not provide sufficient interaction with other health care professionals such as psychologists.

Obstetrics/gynecology, the most approved clerkship, was widely praised. The only semblance of discontent was from two graduates who felt their hands-on experience was limited. Surgery also received little negative reaction. Limited criticism centered on academic and logistical matters--e.g., excessive reading and quizzes; inefficient scheduling of activities. Pediatrics was also well-received; two graduates thought the inpatient component of the clerkship was not adequate. Although it received substantial approval (65%), the Medicine clerkship was cited with numerous criticisms. Most frequently graduates felt they had insufficient patient contact or not enough responsibility for patient care. A number of comments focused on instructors--e.g., having a subspecialist as a supervisor and thus not seeing a variety of patients; insufficient supervision and guidance; poor teaching skills. The remaining criticisms were related to instructional activities--e.g., lack of opportunity to do technical work such as performing spinal taps and writing discharge summaries; too much classroom time; too much information to learn.

For the Class of 1980 the interdisciplinary program consisted of a one-month block at the beginning of Year 3 and intermittent periods throughout the remainder of the year. Question No. 10 asked about the value of six interdisciplinary presentations made to graduates when they were Year 3 WSUSOM students. Graduates were asked whether the presentation was valuable in preparing them for their first year of residency. Table 21 reports the results. The overall approval rate was moderately low (45%). The approval rates for the six presentations were sequenced with intervals of approximately 10 percentage points:

Presentation	Approval Rate (%)
Ophthalmology	65
Dermatology	55
Neurology	55
Radiology	42
ENT	34
Anesthesiology	23

TABLE 21: Were the interdisciplinary presentations valuable in preparing you for your first year of residency?

	YES				MARGINAL				NO				NOT SURE			
	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL	FP	PC	NPC	TOTAL
Anesthesiology	3 (23%)	4 (19%)	3 (30%)	7 (23%)	3 (23%)	5 (24%)	0 (0%)	5 (16%)	5 (38%)	9 (43%)	2 (20%)	11 (35%)	2 (15%)	3 (14%)	5 (50%)	8 (26%)
Dermatology	9 (69%)	13 (62%)	4 (40%)	17 (55%)	2 (15%)	4 (19%)	0 (0%)	4 (13%)	2 (15%)	4 (19%)	4 (40%)	8 (26%)	0 (0%)	0 (0%)	2 (20%)	2 (6%)
ENT	4 (31%)	7 (33%)	3.5* (35%)	10.5 (34%)	3 (23%)	4 (19%)	2.5 (25%)	6.5 (21%)	3 (23%)	6 (29%)	2 (20%)	8 (26%)	3 (23%)	4 (19%)	2 (20%)	6 (19%)
Neurology	7 (54%)	11 (52%)	6 (60%)	17 (55%)	2 (15%)	3 (14%)	1 (10%)	4 (13%)	3 (23%)	5 (24%)	3 (30%)	8 (26%)	1 (8%)	2 (10%)	0 (0%)	2 (6%)
Ophthalmology	9 (69%)	15 (71%)	5 (50%)	20 (65%)	2 (15%)	2 (10%)	0 (0%)	2 (6%)	1 (8%)	2 (10%)	4 (40%)	6 (19%)	1 (8%)	2 (10%)	1 (10%)	3 (10%)
Radiology	7 (54%)	9 (43%)	4 (40%)	13 (42%)	3 (23%)	5 (24%)	3 (30%)	8 (26%)	3 (23%)	7 (33%)	3 (30%)	10 (32%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Mean percent	50%	47%	43%	45%	19%	18%	11%	16%	22%	26%	30%	27%	9%	9%	17%	11%

*One graduate equivocated between yes and marginal and thus each rating was assigned one-half.

Disapproval rates were less variable:

Presentation	Disapproval Rate (%)
Anesthesiology	35
Radiology	32
Dermatology	26
ENT	26
Neurology	26
Ophthalmology	19

The moderately low overall approval rate (45%) and the fairly high overall disapproval rate (27%) indicates substantial dissatisfaction with the interdisciplinary presentations. Specialty trends follow:

1. Family practice (69%)/primary care (62%) residents were more likely than nonprimary care residents (40%) to believe that dermatology was valuable to them in preparing for their first year of residency.
2. Family practice (69%)/primary care (71%) residents were more likely to approve of ophthalmology than nonprimary care residents (50%).
3. Family practice (38%)/primary care (43%) residents more frequently disapproved of anesthesiology than nonprimary care residents (20%), but nonprimary care residents were more likely to disapprove of dermatology (40% versus 15% and 19%) and ophthalmology (40% versus 8% and 10%).

In collating the comments of graduates, two reasons emerge to explain the discontent with the interdisciplinary program. First, there were a number of comments which related to the style and quality of presentations--i.e., too dominated by the lecture method, too many different instructors, sessions which were disorganized or disjointed, material which was not clinically relevant. Second, and much more serious in the view of graduates, was the tendency for interdisciplinary presentations to focus on an abundant amount of complex material without the opportunity for related clinical experience to integrate the factual information. In the words of graduates:

> "The framework did not exist in which to apply the information."
>
> "We did not apply the information we were getting."
>
> "We were given too much information and didn't apply it to anything."

In addition, one graduate noted that he used the intermittent interdisciplinary periods to rest from the demands of the preceding clerkship and to gather energy for the upcoming clerkship.

In question No. 11 graduates were asked about the value of the Year 4 selectives. Table 22 reports the results. The support for the Year 4 selectives was virtually unanimous (97%). Among the graduates' principal reasons for endorsing the Year 4 selectives were (1) the flexibility to choose either selectives which related to future career plans, which helped to strengthen areas of weakness, or which permitted exposure to areas not likely to be part of postgraduate training; and (2) a less hectic and less pressure-filled setting with the opportunity to learn at one's own pace. One graduate spoke for many when he said:

> "The Year 4 selectives gave me time to learn and the opportunity to learn at my own pace. They permitted more in-depth contact with patients. They also gave me time to learn to be human; to balance the professional with the personal. I learned to be more comfortable with my abilities as a physician."

TABLE 22: As a group were your Year 4 selectives valuable?*

	YES	MARGINAL	NO
Family Practice	13 (100%)	0 (0%)	0 (0%)
Primary Care	21 (100%)	0 (0%)	0 (0%)
Nonprimary Care	8 (89%)	1 (11%)	0 (0%)
TOTAL	29 (97%)	1 (3%)	0 (0%)

*One graduate spent Year 4 in a special out-of-state program and thus could not respond to this question.

Question No. 12 (No. 7 for supervisors) was in two parts. The first part was asked of graduates who were taking residency training in the primary care specialties--family practice (N = 13), pediatrics (N = 4), internal medicine (N = 4). These 21 residents were asked if the WSUSOM program adequately prepared them for ambulatory health care. Fourteen graduates responded yes (67%), three responded marginal (14%), two responded no (10%), and two responded not sure (10%). These findings are a fairly strong endorsement of the adequacy of the WSUSOM program in preparing primary care practitioners for ambulatory health care.

Supervisors also were asked if the WSUSOM program adequately prepared the graduate for ambulatory health care. Twelve supervisors responded yes (86%), one responded no (7%), and one responded not sure (7%). Thus, supervisors were more positive than graduates in evaluating the preparation of residents in the area of ambulatory care.

The second part of question No. 12 (No. 7 for supervisors) was asked of graduates in the two primary care specialties which deal with geriatric patients -- family practice (N = 13) and internal medicine (N = 4). These 17 residents were asked if the WSUSOM program adequately prepared them for geriatric health care. One graduate equivocated between yes and no, and thus in this resident's care each rating was assigned one-half. Six and one-half graduates responded yes (38%), four responded marginal (24%), four and one-half responded no (26%), and two responded not sure (12%). This weak endorsement by graduates of their preparation for geriatric health care was reflected in their comments. The negative reactions about their geriatric experiences at WSUSOM included vague phrases and terms such as "unorganized", "lacking continuity", "incoherent", "fragmented", "uncoordinated", and "haphazard". The only specific criticism was from a graduate who felt as medical students they were not observed and supervised sufficiently in their contact with geriatric patients.

Supervisors also were asked if the WSUSOM program adequately prepared the graduate for geriatric health care. Eight supervisors responded yes (73%), one responded marginal (9%), one responded no (9%), and one responded not sure (9%). Thus, supervisors were much more positive than graduates in evaluating the preparation of residents in the area of geriatrics.

Question No. 13 was an open-ended critique of the WSUSOM program. Many comments dealt with clinical experiences. Graduates commented extensively that patient care opportunities could have been greater in number and better in learning potential. Graduates criticized the limited responsibility given students for clinical decision-making and management of patients. Several graduates felt there were inadequate opportunities to do follow-up and longitudinal work with patients. The second most frequent set of comments related to instructional content and instructors. In the view of graduates the most neglected instructional content areas were counseling and communication skills, psychomotor/procedural skills, and EKG interpretation. Clinical instructors were often criticized for lack of interest in teaching and poor quality of teaching, guidance, and supervision.

A number of content areas, not previously mentioned, were cited when graduates were asked what was missing in the WSUSOM program: (1) acupuncture, (2) exercise therapy, (3) herbal medicine, (4) human sexuality, (5) intensive care medicine, (6) management of burn victims, and (7) massage medicine.

When asked what they would have liked more of, a variety of responses, not previously mentioned, were identified: (1) cardiology, (2) physical medicine and rehabilitation, (3) basic science content in Years 3 and 4, (4) contact with WSUSOM underclassmen, (5) emphasis on the biopsychosocial model of medicine, (6) experience in geographic locations underserved in medical care, (7) experience in outpatient care, and (8) feedback and evaluation of student performance in Years 3 and 4.

When asked what they would have liked less of, the only item mentioned frequently was the driving/traveling time required by Class of 1980 students.

In question No. 6 for supervisors (similar to No. 13 for graduates), a variety of comments was made with regard to what could be taught better or given more emphasis in the WSUSOM curriculum. No specific item was mentioned more than once, but there are similarities among some of the items. The list follows in

alphabetical order:

basic sciences
care of the cardiac patient
clinical correlation in Biennium 1
clinical responsibility and decision-making opportunities
clinical problem-solving
decision theory
diagnostic tests and procedures (selection of)
EKG (interpretation of)
internal medicine
junior internship in Year 4
pathologic physiology
physical diagnosis
physical examination
psychomotor skills
surgery

Specialty Choices

Question No. 14 asked about the graduates' specialty choices--why they chose their specialties and their intentions with regard to completing residency training. Family practice residents (N = 13) emphasized two reasons for choosing their specialty: (1) the opportunity to work with a variety of patients and clinical problems and (2) philosophical agreement with the thrust of family practice--i.e., emphases on preventive medicine, holistic medicine, family health care, continual patient care, and health maintenance. Other reasons mentioned less frequently were interest in outpatient care, interest in increased interpersonal contact, increased mobility with regard to practicing in either a large or small community, and avoidance of the more severe, incurable patient problems.

Residents who chose internal medicine (N = 4) made statements which stressed an interest in being well-trained, in being knowledgeable and skilled in many areas, and in having the opportunity to subspecialize.

Pediatric residents (N = 4) most frequently mentioned their interest in working with young patients and dealing with basically healthy people or acute medical problems versus the chronic medical problems more typically found in older patients. Also mentioned was the opportunity to influence the health of patients on a lifelong basis. One resident attributed his choice largely to his satisfaction with his WSUSOM pediatrics clerkship.

Surgery residents (N = 4) stressed two factors in their specialty choice: (1) physical involvement and use of their hands and (2) the opportunity to intervene directly, correct a problem relatively quickly, and find out the results on one's action in a short time. In the words of one surgery resident:

> "I'm an interventionist. I like physical involvement. I like to correct things and get the results. I want immediate gratification."

The remaining six residents (all nonprimary care) focused on their interest in their specialty and its compatibility with their lifestyle and personality.

Table 23 reports the changes in specialty choice from postgraduate year one to postgraduate year two for the Class of 1980. Table 24 shows a loss of 2 family practice residents, a net loss of 1 primary care resident, and a net gain of 1 nonprimary care resident. Thus, the percent of graduates in family practice residencies decreased from 42 percent to 35 percent; primary care decreased from 68 percent to 65 percent; and nonprimary care increased from 32 percent to 35 percent.

TABLE 23: Change in specialty choice for Class of 1980

Postgraduate Year 1 Specialties		Postgraduate Year 2 Specialties	
Primary Care		**Primary Care**	
Family Practice	13	Family Practice	11
Internal Medicine	4	Internal Medicine	5
Pediatrics	4	Pediatrics	4
	21		20
Nonprimary Care		**Nonprimary Care**	
Emergency Medicine	1	Dermatology	1
Flexible	1	Emergency Medicine	1
Pathology	1	Ophthalmology	1
Radiology	1	Psychiatry	2
Psychiatry	2	Radiology	2
Surgery	4	Surgery	4
	10		11

Changes

Family Practice to Dermatology

Family Practice to Psychiatry

Flexible to Ophthalmology

Pathology to Radiology

Psychiatry to Internal Medicine

APPENDIX A: Question List for Graduates Class of 1980

1. Do you believe you were adequately prepared for your first year of residency training in the following areas?

    a. knowledge of medicine
    b. psychomotor skills
    c. clinical problem-solving ability
    d. interpersonal relations and communication skills with patients

    To what do you attribute the weaknesses you have identified?

2. How do you compare with first-year residents from other medical schools in these areas?

    a. knowledge of medicine
    b. psychomotor skills
    c. clinical problem-solving ability
    d. interpersonal relations and communication skills with patients

3. In addition to your answer to No. 2, how do you differ from first-year residents from other medical schools?

4. Wright State's medical school advocates the development of a humanistic physician, specifically one who does such things as:

    a. inquiring about patient needs
    b. showing concern for the patient's comfort
    c. discussing problems and concerns with the patient
    d. being aware of the patient's and the patient's family's psychó-social history and socioeconomic background
    e. being tolerant of alternative values and life-styles
    f. involving the patient in decision-making

    Are you different from first-year residents from other medical schools in the practice of humanistic medicine as described above? In what ways?

5. Wright State's medical school advocates the development of a physician who is self-directed in his learning and has a strong interest in lifelong professional learning.

    Has the WSUSOM program promoted, hindered, or not affected the development of these two characteristics in you? In what ways?

    Are you different from first-year residents from other medical schools with regard to self-directed learning and interest in lifelong learning? In what ways?

6. As you reflect on your basic science courses in Biennium I, as a whole did those courses provide you with the basic understanding of the disciplines which underlie clinical medicine?

7. Are there any basic science areas in which insufficient knowledge hinders your development as a physician? If yes: what areas and to what do you attribute these gaps in your knowledge?

8. Were each of the following Biennium 1 course sequences valuable to you?

   a. Introduction to Clinical Medicine (ICM)
   b. Behavioral Science
   c. Medicine in Society (MIS)
   d. Selectives in Years 1 and 2

9. Did each of the following clerkships adequately prepare you for your first year of residency?

   a. Family Practice
   b. Medicine
   c. Obstetrics/Gynecology
   d. Pediatrics
   e. Psychiatry
   f. Surgery

   To what do you attribute the weaknesses you have identified?

10. Were each of the following interdisciplinary presentations valuable in preparing you for your first year of residency?

   a. Anesthesiology
   b. Dermatology
   c. ENT
   d. Neurology
   e. Ophthalmology
   f. Radiology

11. As a group were your Year 4 selectives valuable?

12. IF SPECIALTY IS FAMILY PRACTICE, PEDIATRICS, INTERNAL MEDICINE, OR OBSTETRICS/GYNECOLOGY: Did the WSUSOM program adequately prepare you for ambulatory health care?

    IF SPECIALTY IS FAMILY PRACTICE OR INTERNAL MEDICINE: Did the WSUSOM program adequately prepare you for geriatric health care?

13. In the WSUSOM program was there anything which was missing? anything you would have liked more of? anything you would have liked less of? anything you have not mentioned which could have been done better?

14. Why did you choose your specialty? At this point do you plan to complete specialty training in _____ (state specialty) and practice as a _____? If no: do you plan to change to a different specialty? What specialty? Why?

APPENDIX B: Question List for Supervisors of Residents Class of 1980

1. Do you believe WSUSOM graduates are adequately prepared for their first year of residency training in the following areas?

   a. knowledge of medicine
   b. psychomotor skills
   c. clinical problem-solving
   d. interpersonal relations and communication skills with patients

   To what do you attribute the weaknesses you have identified?

2. How do you compare first-year residents from WSUSOM with first-year residents from other medical schools in these areas?

   a. knowledge of medicine
   b. psychomotor skills
   c. clinical problem-solving
   d. interpersonal relations and communication skills with patients

3. In addition to your answer to No. 2, how do WSUSOM first-year residents differ from first-year residents from other medical schools?

4. Wright State's medical school advocates the development of a humanistic physician, specifically one who does such things as:

   a. inquiring about patient needs
   b. showing concern for the patient's comfort
   c. discussing problems and concerns with the patient
   d. being aware of the patient's and the patient's family's psychosocial history and socioeconomic background
   e. being tolerant of alternative values and life-styles
   f. involving the patient in decision-making

   Are WSUSOM first-year residents different from first-year residents from other medical schools in the practice of humanistic medicine as described above? In what ways?

5. Wright State's medical school advocates the development of a physician who is self-directed in his learning and has a strong interest in lifelong professional learning. Are WSUSOM first-year residents different from first-year residents from other medical schools with regard to self-directed learning and interest in lifelong learning? In what ways?

6. From your experience with WSUSOM first-year residents, what should be given more emphasis or taught better in the WSUSOM curriculum?

7. IF SUPERVISOR HAS WSUSOM GRADUATE(S) IN FAMILY PRACTICE, PEDIATRICS, INTERNAL MEDICINE, OR OBSTETRICS/GYNECOLOGY: Did the WSUSOM program adequately prepare the graduate for ambulatory health care?

8. IF SUPERVISOR HAS WSUSOM GRADUATE(S) IN FAMILY PRACTICE OR INTERNAL MEDICINE: Did the WSUSOM program adequately prepare the graduate for geriatric health care?

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Program Evaluation Studies

Report No. 1	Program Evaluation Studies: An Overview November 1980 Ronald J. Markert; Paul G. Carlson
Report No. 2	The Prediction of National Board Performance, Specialty, and Location of Residency for the Wright State University School of Medicine Class of 1980 April 1981 Ronald J. Markert
Report No. 3	Medical Education at Wright State University: An Evaluation during the First Year of Residency by the Class of 1980 and Their Residency Supervisors June 1981 Ronald J. Markert