

A Comparison of University-Based and Community-Based Family Practice Residency Programs

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The issue of differences between university-hospital-based and community-hospital-based family practice residency programs was studied in a network that included five community programs and one large university program. American Board of Family Practice (ABFP) Intraining Examination scores and ABFP board certification scores indicated comparative cognitive knowledge. A graduate follow-up study compared post-residency experience of the graduates of both types of programs. Conclusions from the study showed little difference between subjects trained in the two types of programs. Differences in examination scores were not significant. Small differences in graduate perception of adequacy of preparation for content areas and in postresidency practice characteristics seemed equally insignificant, but were not amenable to statistical testing.

Frequently, medical students seeking a residency in family practice question faculty about the difference between residency programs based in university hospitals and those based in community teaching hospitals. A recent study of factors influencing program selection by family practice residency applicants confirmed the importance of this issue to the applicants.¹ To provide more objective data to respond to this statement, a study was performed comparing graduates and residents of the University of California (UC), Davis, Medical Center program in Sacramento with graduates and residents in the five affiliated, community-based residency programs that constitute the UC Davis Network of Family Practice Residency Programs.²

After discussions with medical students and residents, two hypotheses were developed: (1) resi-

dents of university-based programs receive more "academic" training and would therefore do better in cognitive examinations such as the American Board of Family Practice (ABFP) Intraining Examination and the ABFP Board Certification Examination after completion of training, and (2) residents in community-based programs receive more training and experience in procedures such as complicated obstetric deliveries, cesarean sections, and general surgical procedures and would thus incorporate these to a greater extent in their postresidency practice.

Methods

To study these questions, all residents and graduates of the UC Davis network were separated by whether their residency was in the University of California, Davis, Medical Center in Sacramento (UCDMC), or in one of the five affiliated, community hospital residency programs.

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**Table 1. American Board of Family Practice 1982
Intraining Evaluation Score Averages**

Area	Score (Percentile)	
	UCDMC	Community Hospital Average
Composite	500 (63)	515 (62)
Internal medicine	480 (48)	510 (56)
Pediatrics	490 (54)	530 (51)
Surgery	460 (45)	514 (60)
Obstetrics-gynecology	480 (50)	509 (62)
Psychiatry	500 (50)	486 (47)
Community medicine	500 (57)	514 (59)
Gerontology	480 (36)	499 (51)
Clinical simulation problem average	520 (69)	518 (63)

Through June 1982 there were 82 graduates of the university program and 152 graduates of the community hospital programs. In addition, there were 36 residents at the University Medical Center and 81 residents in community programs. Forty-two of the community hospital graduates were from two community-based "one-two" programs in which the residents spend their first year at the university hospital and the second and third years at the community hospital. As the majority of training for these residents was in the community hospital, however, they were included in the community hospital study population.

The study utilized three measures to compare university with community hospital graduates: (1) the 1982 ABFP Intraining Examination scores for all residents in the network, (2) the ABFP certification scores for all graduates of the network, and (3) the results of a graduate follow-up study of UC Davis Network graduates through June 1981. The first two measures looked at the issue of the cognitive knowledge of the study population and the third the postresidency experience.

Results

In-Training Examination

Table 1 displays the average composite score and percentile rank by category on the 1982 ABFP

Intraining Examination. The university program scores include the nine first-year residents from the one-two programs. Because 47 percent of the residents taking the examination at the university program were first-year residents, and only 25 percent of the residents in the network programs were first-year residents, a lower composite score for the university program might be predicted. When the level of the examinees is factored into a percentile rank of how the program rates against the national average by residents' percentile scores, however, there appears to be little difference between the university percentile rank and the average percentile rank of the community hospital programs.

Certification Examination

Table 2 displays the average ABFP certification examination scores for all graduates of the network through June 1982. There were 81 graduates of the university program and 145 graduates of community programs included in these averages. One university graduate and seven community program graduates elected not to take the board certification examination. Ninety-six percent of university graduates had taken and passed the ABFP certification examination, whereas 87 percent of community hospital graduates had done so. This difference reflects a larger percentage of

Area	UCDMC	Community Hospital Average	National Average
Patient management problems	56	55	55
Multiple choice	57	56	55
Internal medicine	57	56	55
Surgery	55	55	54
Obstetrics-gynecology	58	57	55
Community medicine	55	55	54
Pediatrics	57	56	55
Psychiatry	56	55	54
Gerontology	52	50	not available

Type of Practice	Percentage of University Graduates	Percentage of Community Graduates
Solo	23	24
Partnership	6	18
Single specialty group	11	15
Multispecialty group	15	8
Health maintenance organization	15	4
Teaching—medical school	3	2
Teaching—community hospital	5	3
Emergency medicine	10	12
Continuing in training	3	1
Military	2	0
National Health Service Corps	0	2
Other	7	11
Total	100	100

community graduates who elected not to take the examination. The reasons for this difference are unknown. No resident from any program failed the board certification examination.

Practice Characteristics

A follow-up study of all network graduates

through 1981 was completed. This study used the same questionnaire as used in previous graduate follow-up studies.³⁻⁵ Of 196 graduates, 177 returned the completed questionnaires for a response rate of 90 percent. Of the university program graduates, 68 percent were practicing in California, whereas 72 percent of community hospital graduates were in California.

Table 3 displays the predominant mode of prac-

tice of graduates by type of program and Table 4 indicates the size of the community in which graduates are practicing. Sixty-three percent of university graduates and 73 percent of community program graduates have been in the same practice site since graduation. Graduates of both types of programs showed no difference in the average number of patients seen either in their offices or in other settings.

Hospital Privileges

Table 5 displays the hospital privileges of graduates by type of program. When asked about their

Size of Practice Community	Percentage of University Program Graduates	Percentage of Community Program Graduates
Under 2,500	6	2
2,500-25,000	36	34
25,000-50,000	11	18
50,000-100,000	3	13
100,000-500,000	23	18
Over 500,000		
Central city	9	6
Suburbs	12	9
Total	100	100

Hospital Privileges	Percentage of University Program Graduates With This Privilege	Percentage of Community Program Graduates With This Privilege
Adult medicine	100	100
Pediatrics	98	95
Intensive and cardiac care units	82	87
Routine obstetric care	59	81
Complicated obstetrics	23	42
Cesarean section	16	27
Surgery first assist	79	84
Minor surgery	48	66
Major surgery	5	8

perception of the appropriateness of their privileges, 95 percent of university graduates felt they were "about right," whereas 88 percent of community hospital graduates felt their privileges were "about right." Six percent of university graduates and 10 percent of community graduates had one or more requested privileges denied. The denied privileges included complicated obstetrics, cesarean section, intensive and cardiac care unit, and major surgery. There was no difference noted be-

tween university and community hospital graduates on the type of privileges denied.

As many medical students ask questions regarding their future opportunities to practice obstetrics, graduates were queried specifically on the current scope of obstetrics in their practices. Sixty-six percent of graduates of community hospital programs responded that they are currently accepting obstetric patients, whereas only 39 percent of university graduates are doing so.

Table 6. Percentage of Graduates Who Felt Underprepared for Specific Content Areas by Type of Program

Subject Area	Percentage of University Program Graduates	Percentage of Community Program Graduates
Providing health maintenance	8	19
Family structure and function	17	34
Psychosomatic problems	17	32
Psychosocial components of major illnesses	15	28
Medical subspecialties		
Allergy	53	42
Hematology	18	28
Rehabilitation	61	46
Obstetrics-gynecology		
Forceps delivery	48	37
Surgical preparation		
General surgery	35	22
Emergency surgery	39	28
Fracture care	56	22
Tonsillectomy	44	32
Behavioral science		
Counseling skills	24	40
Socioeconomics		
Hospital functions	20	30
US health problems	17	30
Practice organization	56	69
Financial management	67	83
Office management	65	81
Clinical records	12	36

Note: Only those content areas in which there was a 10 percent or greater difference between university and community graduates are listed

Co-Practice

All programs in the UC Davis network utilize family nurse-practitioners or physician's assistants (FNP/PA) in some form of co-practice with residents. Thirty-nine percent of university graduates are currently practicing with FNP/PAs, whereas 32 percent of community hospital graduates are doing so.

Perceived Adequacy of Training

All graduates were asked a series of questions regarding their impressions of the adequacy of the

training they received in 65 specific content areas. Graduates of both types of programs felt generally well-prepared for their practice. Table 6 displays the content areas in which there was a 10 percent or greater difference between university and community hospital graduates in the percentage of those who felt underprepared for their practice.

Teaching Involvement

Graduates of both types of program were very active in teaching activities. Fifty-three percent of university graduates and 51 percent of community

hospital graduates were teaching family practice residents, medical students, or family nurse practitioner or physician's assistant students.

Discussion

The in-training examination and ABFP certification examination scores showed little difference in the total or in any content areas between university and community hospital residents. The slightly lower university program scores on the in-service training examination can be attributed to the greater percentage of first-year residents (47 percent at the university program vs 25 percent at the community programs). These findings would seem to refute the hypothesis that university teaching hospital residents receive better knowledge training than community-based residents. The higher percentile rankings for community hospital resident averages in surgery and obstetrics-gynecology pose the question of better preparation in these areas in community hospital programs, a result consistent with the higher percentages of university graduates who felt underprepared in these areas. What cannot be tested is preresidence competency in these areas and the possibility of self-selection of community hospitals by applicants more interested and better prepared in surgery and obstetrics.

Experience after residency did reveal some differences between university and community hospital graduates. University graduates tended to practice more in multispecialty groups and HMOs than did community graduates. Community hospital graduates appeared to practice more obstetrics than did university graduates (66 percent vs 39 percent). A smaller percentage of university graduates were denied requested hospital privileges, however, suggesting that university graduates voluntarily do less obstetrics. Community graduates also showed a slightly larger percentage who have privileges for cesarean sections and for surgical procedures. The distribution of graduates by community size appeared similar for both types of programs.

There were areas of difference between the perceptions of university and community graduates on the adequacy of their training in specific content areas. The differences varied greatly from

program to program and could not be subjected to statistical testing. University graduates felt better prepared in the behavioral science skills and in the socioeconomics areas, while community hospital graduates felt better prepared in the procedural skills, especially in obstetrics, orthopedics, and surgery. Again, it is possible that there was a self-selection by applicants, with university-based residents entering the program with more behavioral medicine skills and interests.

Conclusions

Data from this study reveal little difference between the graduates of university hospital and community hospital family practice residency programs in the UC Davis network programs. Residents from both types of programs in the network do equally well on cognitive examinations. That graduates from these community hospital programs tend to incorporate more obstetrics and surgical procedures in their practices appears to be a function of self-selection and choice, as there was no evidence that university program graduates were unable to obtain adequate training and ultimately include these services in their practice.

The difference between the programs in the network seems to be predominately one of teaching style. The university program offers more didactic teaching and less procedural experience. It is important to counsel applicants to residencies to match their own learning styles to the type of program rather than to choose based upon how they might envision their ultimate practice.

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