

Family Practice Resident Self-Evaluation Test

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Medical education in the clinical years has to a degree always personalized learning. Student to preceptor ratios have been low and the student receives some individual attention. In residency programs there is a need to individualize the learning modes and personalize the desired goals; every resident has unique and specific plans for practice. Residency programs should be structured with flexibility to enable an individual to tailor the education to his/her needs and goals.

Methods

A prerequisite to a successful personalized program is knowledge about the resident. Without knowledge of the competencies and future goals of the resident, successful and relevant advising becomes impossible. At the University of Kentucky a self-evaluation inventory was administered to the family practice residents in June 1976 for the gathering of some information. The form, a modification of one developed by Dr. Donald E. McHard of Phoenix, Arizona, required the individuals to indicate their perceived skills at present and their future practice plans. The form consisted of the majority of the rubrics which comprise

the International Classification of Health Problems in Primary Care (ICHPPC). This list was chosen due to its comprehensive coverage of approximately 98 percent of the diseases, signs, and symptoms seen by family physicians. In order to make a clearer list, the "other" rubrics were excluded, leaving 320 topics to be scored. For each item the resident responded in two fashions: "What is my skill at present?" and "What are my future practice plans?" Tables 1

and 2 list the choices for each response. The self-evaluation was completed on optical scan sheets to facilitate data analysis.

The purposes of gathering this information were several: (1) to determine if there were measurable differences in the perceived skills of residents at various levels; (2) to determine the relationship between perceived skills and future practice plans; and (3) to attempt to personalize experiences based on needs and future practice plans.

Forms were completed by 23 individuals: 7 first year residents, 5 second year residents, 4 third year residents, 2 residents just completing their third year of residency, and 5 family practice faculty members.

Data Analysis

To facilitate management of the 320 separate items, categories were made from the 18 major subsections of the ICHPPC. Thus each person had 36 scores consisting of the means of the items in the 18 categories on the two scales.

By grouping individuals according to training level, an analysis of variance was completed on each of the 18 subsections for the scale "My Skills at

Table 1. Present Skills

0 - No Knowledge	Would not recognize syndrome or disease in its classic form, would not know how to use the drug, would not know anything about the procedure.
1 - Brief Knowledge	Might recognize or diagnose disease in classic form but probably would miss it in an unusual presentation. Would need help with selecting diagnostic tests and their interpretation.
2 - Working Knowledge	Basic understanding of this theory, disease, condition is pretty good. Able to recognize common and some unusual presentations of this disease, condition. Would feel comfortable with diagnosis/treatment but might need help. Could do procedure if had to.
3 - Complete Knowledge	Feel comfortable in all aspects - basic knowledge, diagnosis, treatment, long-term management. Comfortable with procedure - know indications and contraindications, can skillfully perform. Know limitations and usefulness of tests, no consultations required. Could counsel patient on this issue.

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Table 2. Future Practice Plans

1 – Recognition Only	Will refer away for treatment and management.* Will not do procedure. Refer.
2 – Diagnosis and Treatment	Expect to be able to make the diagnosis and treat the condition. Do the procedure.
3 – Management	As in 2 above, but also be able to follow-up for long periods of time (as in chronic disease), handle all aspects of treatment (side effects). Counsel patient and family.
4 – Exclude	Plan to exclude completely from my practice.
* – Treatment	Treatment of <i>disease</i>
– Management	Management of the <i>person</i> who has the disease and all the ramifications of the illness: social, personal, psychological, financial, intrafamily dynamics and tension.

Table 3. My Skill At Present

Subsection	1st Year Resident Mean	2nd Year Resident Mean	3rd Year Resident Mean	Recent Graduate Mean	Faculty Mean	F Ratio	Significant Trend
Infective and Parasitic Diseases	1.90	2.04	2.06	2.36	2.72	8.60*	Yes
Neoplasms	1.71	1.78	1.44	1.96	2.17	2.47	–
Endocrine, Nutritional, and Metabolic Diseases	1.89	1.96	1.75	2.10	2.66	11.45*	No
Diseases of the Blood and Blood Forming Organs	1.61	1.74	1.64	1.93	2.25	3.13	–
Mental Disorders	1.60	1.75	1.76	1.82	2.45	7.10*	Yes
Diseases of the Nervous System and Sense Organs	1.54	1.67	1.84	2.00	2.23	7.13*	Yes
Diseases of the Circulatory System	1.94	2.41	1.97	2.29	2.46	3.59	–
Diseases of the Respiratory System	2.01	2.41	2.08	2.53	2.79	6.54*	Yes
Diseases of the Digestive System	1.67	1.98	1.65	1.72	2.41	7.59*	No
Diseases of the Genitourinary System	1.57	2.10	1.81	2.19	2.68	11.49*	Yes
Pregnancy, Childbirth, and the Puerperium	1.61	1.93	1.94	2.22	2.48	6.12*	Yes
Diseases of the Skin and Subcutaneous Tissue	1.87	2.15	1.88	2.44	2.88	8.62*	Yes
Diseases of the Musculoskeletal System	1.41	1.66	1.49	1.92	2.41	10.72*	Yes
Congenital Anomalies	1.26	1.28	1.60	1.50	2.20	8.46*	Yes
Perinatal Morbidity and Mortality	1.29	1.40	1.75	2.00	2.40	4.22	–
Physical Signs, Symptoms, and Ill-defined Conditions	1.61	1.87	1.83	2.04	2.54	9.41*	Yes
Accidents, Poisonings, and Violence	1.46	1.90	1.82	2.10	2.41	8.93*	Yes
Supplemental Classifications	1.60	2.01	1.93	2.55	2.71	10.31*	Yes

*P<.01

Table 4. Ranking of Subsections by Perceived Knowledge and Future Practice Plans

Subsections	Ranking of Means*	
	Knowledge	Practice Plans
Diseases of the Respiratory System	1	1
Diseases of the Skin and Subcutaneous Tissue	2	3
Infective and Parasitic Diseases	3	2
Diseases of the Circulatory System	4	5
Supplementary Classification	5	7
Endocrine, Nutritional, and Metabolic Diseases	6	4
Diseases of the Genitourinary System	7	10
Pregnancy, Childbirth, and the Puerperium	8	16
Physical Signs, Symptoms, and Ill-defined Conditions	9	8
Diseases of the Digestive System	10	6
Accidents, Poisonings, and Violence	11	12
Mental Disorders	12	11
Diseases of the Nervous System and Sense Organs	13	13
Diseases of the Blood and Blood-Forming Organs	14	14
Neoplasms	15	17
Perinatal Morbidity and Mortality Conditions	16	9
Diseases of the Musculoskeletal System and Connective Tissue	17	15
Congenital Anomalies	18	18

*The lower the ranking the more knowledgeable and the more it will be dealt with in future practice.

Present." Table 3 gives the groups' means and resulting F-ratios* for the 18 subsections. F-ratios significant at $P < .01$ level were identified. This denotes that differences in perceived knowledge of the groups could be attributed to levels of training rather than chance occurrence. In addition, those categories which also had a significant linear trend were identified. This signifies that the perceived knowledge of the group progressively increased as the level of training increased.

Since this was the initial administration of the form, the relationship of the perceived skills and future practice plans was examined. All 23 subjects were used to determine the overall means for the two scales on each of the 18 subsections. The means were then ranked, and a comparison of rankings is listed in Table 4.

The 18 major subsections were analyzed based on the scale "My Skills at Present," and there were significant differences ($P < .01$) on fourteen of the 18 subsections, for the different levels of training. The 12 categories with significant linear trend support the thought that the perceived skill of the residents is greater according to the level of training.

In addition, the data shown in Table 4 is valuable in total program planning. It becomes evident that the

rankings for the subsections Pregnancy, Childbirth, and Puerperium and Perinatal Morbidity and Mortality do not coincide. This may imply that there is more training than needed for future practice in obstetrics, etc, and more training should be provided in the perinatal area.

Future Plans

It is planned that in the future these tests will be completed yearly by the residents so that individual comparisons can be made. Individual data on "My Skill at Present" will, it is hoped, coincide with "Future Practice Plans" by the end of the residency program.

Prior to administration next year, the 320 items will be reviewed individually to exclude any that may be inappropriate for the format.

*F-ratio is a statistical test used to determine significant differences between several groups. The ratio is derived with the variances between groups and within groups. Significance is achieved when the between group variance is large enough in comparison to the within group variance that the difference can be attributed to a factor other than chance.