

# Teacher Training in Family Practice: A Preliminary Report

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The Department of Family Medicine of the College of Medicine and Dentistry of New Jersey (CMDNJ)-Rutgers Medical School this year began a program for the training of new preceptors in family medicine, which has implications for the educational development of family medicine and the delivery of primary health care. Funded by the Department of Health, Education, and Welfare, the program will prepare ten Board-certified family physicians and general osteopaths in southern New Jersey to provide required four-week family practice rotations for fourth year medical students from CMDNJ-Rutgers Medical School.

This is the first time that family medicine preceptors at CMDNJ-Rutgers Medical School have been exposed to a developmental educational program specifically designed to prepare them for their roles as teachers. Until now, family medicine preceptorships at CMDNJ-Rutgers Medical School have been offered by clinicians who acquired their educational skills through intuition and experience, student feedback, and regular but infrequent formal conferences which the Department was able to organize. In short, their first teaching experiences generally occurred when they had their first preceptor experiences with actual students.

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## The Program

The program was initiated by identifying and recruiting ten ABFP-certified family physicians and general osteopaths from southern New Jersey. Possible candidates for the program were identified on the basis of recommendations from colleagues, hospital directors of medical education, or from personal knowledge. They were chosen for their clinical capabilities as well as for their willingness to participate regularly in the program. Each prospective candidate was interviewed personally by a departmental member to ascertain his or her commitment to teaching and to evaluate the office setting as a potential educational site. Based on the recommendations, a site visit report, and data from an extensive personal and practice profile, the Department chose ten "preceptor-interns" from approximately twenty candidates.

The preceptor-interns have begun an educational program of alternating group seminars and individual learning experiences held monthly at sites in central and southern New Jersey (Figure 1). The seminars are presented by departmental faculty members, experienced family medicine preceptors, and students who have completed a family practice office experience. Topics include educational feedback, teaching from the medical record, and analyzing educational problems.

Individual learning experiences consist of half-day visits to the offices of experienced preceptors in central New Jersey during the rotation of a fourth year student. In the course of these

visits the preceptor-interns observe actual teaching in the office setting. They have their first opportunity to practice teaching and to try out, under supervision, the teaching principles presented in the seminars and in recommended readings. They are also able to assess the clinical competencies of fourth year students from CMDNJ-Rutgers Medical School and to gain an accurate idea of what effect a student is likely to have on their office schedule or staff.

The learning visits are arranged to include a variety of settings: solo private practice, group private practice, and model unit of a family practice residency program. At the model units, where they function as teachers to first year family practice residents, they are recorded on video tape during feedback and chart review sessions. The video tapes offer them the opportunity for self-assessment as well as group discussion and critique during the seminars.

The educational model upon which this program is based adopts the pedagogical sequence to which physicians become accustomed during clinical training, ie, explanation followed by observation, then replication and adaptation. The explanation phase transfers information to the preceptor-intern, frequently with accompanying demonstration, eg, an explanation of the principles of constructive feedback and a video tape which demonstrates these principles. Observation of actual teaching takes place during the learning visits to preceptor offices and during video-



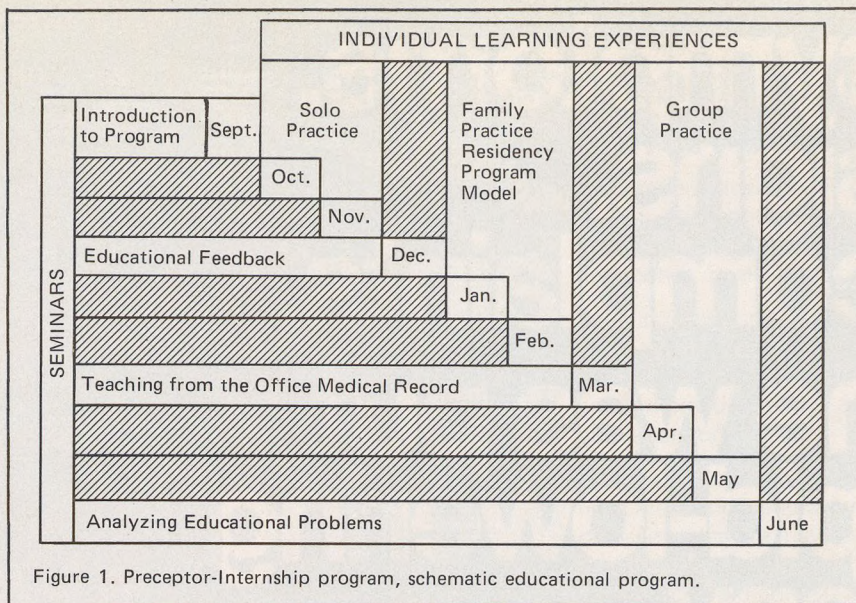


Figure 1. Preceptor-Internship program, schematic educational program.

tape review. The preceptor-intern is then ready to try replication of the techniques which have been explained and demonstrated and which he/she has observed. Finally, the preceptor-intern will invariably adapt the techniques which have been learned to suit his/her own personality and practice.

#### Comment

It is anticipated that program evaluation after the new preceptors have provided actual rotations for fourth year students will show that careful preparation and training have resulted in better preceptorship experiences for medical students. A trained preceptor should have a better grasp of his/her role as a teacher, fewer anxieties about his/her teaching, less difficulty managing student problems, and greater ability to prepare and organize staff and schedule. Not only should well

prepared preceptors be better able to teach important elements of medical care, but they should give the student a better role model and image of family practice to consider when career choices are being made.

This simply designed and relatively inexpensive program will help meet a number of needs in family practice education at CMDNJ. It is now clear that the Medical School is moving rapidly to expand its clinical training sites with the ultimate goal being retention of all 108 students in each class. The impact of class expansion (from 56 to 108 students for each third year and fourth year class) on the Department of Family Medicine will be the need for more family physician preceptors. The program will therefore enlarge the clinical preceptor faculty as well as provide a model for teacher training which can be used on a continuing basis to meet the need for new faculty. Osteopathic physicians who are trained as family medicine preceptors will ultimately become a core of experienced preceptors for the School of Osteopathic Medicine currently being developed within CMDNJ.

Also, there is an expressed need for the development of graduate programs in family practice in family-physician-poor southern New Jersey. It is highly likely that family physician preceptors trained in this program will form a cadre of experienced teachers from which faculty for residency programs will ultimately be chosen.

The overriding goal of this program, and others of a similar nature, is an increase in the production of primary care physicians. It is assumed that improvement in the quality of the teaching skills of family physicians will enhance their effect as role models on medical students whom they supervise. This will serve a twofold purpose of improving the educational experience for the student in settings remote from the Medical School and of providing the needed stimulus and support for a career choice in primary care medicine.

#### Acknowledgement

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This section of the Journal is designed to present clinical problems which focus on patient management, problem-solving, and other elements integral to family medicine. The intent of this section is aimed more at teaching and learning than self-assessment as an evaluation or scoring device. Reinforcement of major teaching points is therefore included through the further discussion and supplemental references which appear on the following pages. Critical comments relating to these self-assessment materials are invited and should be submitted as Letters to the Editor.

## Self-Assessment in Family Practice

These materials have been prepared by members of the Self-Assessment Panel of *The Journal of Family Practice*. Membership: R. Neil Chisholm, MD, Chairman (University of Colorado, Denver), B. Lewis Barnett, MD (Medical University of South Carolina, Charleston), Leland B. Blanchard, MD (San Jose, California), Paul C. Brucker, MD (Thomas Jefferson University Hospital, Philadelphia, Pennsylvania), Laurel G. Case, MD (University of Oregon Medical School, Portland), Silas W. Grant, MD (University of Alabama, Huntsville), Ian R. Hill, MD (Plains Health Centre, Regina, Saskatchewan), Kenneth F. Kessell, MD (MacNeal Memorial Hospital, Berwyn, Illinois), John A. Lincoln, MD (University of Washington, Seattle), James G. Price, MD (Brush, Colorado), Richard C. Reynolds, MD (University of Florida, Gainesville), Gabriel Smilkstein, MD (University of California, Davis), William L. Stewart, MD (Southern Illinois University, Springfield).

The following question concerns the therapeutic administration of psychotropic drugs. For some of the questions, more than one answer may be correct.

1. The administration of a single dose of amitriptyline (Elavil) at bedtime may have the following effect(s):
  - A. May increase the incidence of postural hypotension.
  - B. May increase the incidence of cardiac arrhythmias.
  - C. May decrease the incidence of sedation during the late day.
  - D. May cause symptoms of prostration.
2. After complete remission of endogenous depression treated with tricyclic antidepressants one should:
  - A. Abruptly discontinue the therapy.
  - B. Gradually decrease the drug.
  - C. Switch to anti-anxiety medication.
  - D. Use the tricyclic drug for at least six months after the patient is asymptomatic.
3. The treatment of choice for phenothiazine-induced hypotension includes:
  - A. Use of epinephrine.
  - B. Use of corticosteroids.
  - C. Use of isoproterenol (Isuprel).
  - D. Use of norepinephrine.
4. Side effects of lithium carbonate administration include which of the following:
  - A. Hyponatremia.
  - B. Euthyroid goiter.
  - C. Tremor and muscle hyperirritability.
  - D. Gastrointestinal symptoms such as anorexia, vomiting, or diarrhea.
5. Which of the following hypnotic drugs may increase warfarin requirements?
  - A. Chloral hydrate.
  - B. Glutethimide (Doriden).
  - C. Flurazepam (Dalmane).
  - D. Barbiturates.
6. Which of the following anti-psychotic medications have strong sedative effects?
  - A. Promazine (Sparine).
  - B. Chlorpromazine (Thorazine).
  - C. Chlorprothixene (Taractan).
  - D. Trifluoperazine (Stelazine).
7. Which of the following medications have weak antiemetic effects?
  - A. Chlorpromazine (Thorazine).
  - B. Prochlorperazine (Compazine).
  - C. Promazine (Sparine).
  - D. Thioridazine (Mellaril).
8. Specific antidote(s) for amphetamine intoxication include:
  - A. Major tranquilizers.
  - B. Propranolol (Inderal).
  - C. Acidification of urine with ammonium chloride.
  - D. Atropine.
9. Which of the following should be used to treat the uncontrollable, violent agitation that accompanies a "bad trip"?
  - A. Chlorpromazine (Thorazine).
  - B. Promazine (Sparine).
  - C. Haloperidol (Haldol).
  - D. Diazepam (Valium).
10. Which of the following is(are) true concerning acute narcotic intoxication?
  - A. Usually pupils are contracted and fixed, although meperidine (Demerol) can cause pupillary dilatation.
  - B. Naloxone (Narcan), a narcotic antagonist, will worsen respiratory depression due to barbiturate ingestion.
  - C. Naloxone (Narcan) is shorter acting than heroin and frequently the dosage must be repeated.
  - D. The use of naloxone (Narcan) is not accompanied by withdrawal symptoms.



## Answers and Discussion

1. A, B, C, and D. Amitriptyline (Elavil) is an antidepressant with a sedative component to its action. The exact mechanism of its antidepressant action is not known; however, amitriptyline does interfere with the re-uptake of norepinephrine into adrenergic neurons.

The administration of amitriptyline before retiring takes advantage of its sedative action which frequently helps remedy, along with its antidepressant action, the sleep disturbance that so many individuals with depression experience. It is this sedative action that makes many patients feel drowsy during the day and can interfere with their mental or physical capabilities. The administration of a single dose at night lessens this interference. However, the incidence of orthostatic hypotension and the anticholinergic side effects are pronounced — including urinary retention, cardiac arrhythmias, and angle-closure glaucoma.

2. B and D. Successfully treated endogenous depression requires that the tricyclic drug not be stopped abruptly, but rather be decreased gradually over a period of time, such as six months. Usually the patient is completely asymptomatic during this time. The tapering and continued use of the drug frequently will avert a recurrence of the depression. Generally speaking it is contraindicated to place an asymptomatic, previously depressed patient on anti-anxiety medication.
3. D. Phenothiazine-induced hypotension is most likely secondary to peripheral adrenergic blockade and to inhibition of centrally mediated pressor reflexes. The administration of epinephrine to treat this hypotension frequently results in exaggerated hypotension and for this reason is contraindicated. Norepinephrine is the vasopressor of choice for phenothiazine-induced hypotension.
4. A, B, C, and D. In recent years

lithium salts have been widely used in manic disorders. Lithium can substitute for the sodium ion in the extracellular fluid. However, once the sodium enters the cell during depolarization, the sodium pump is rendered ineffective and potassium is replaced by the lithium at an intracellular site. When sodium intake is restricted, lithium excretion is much slower than usual, and severe intoxication may ensue. For this reason, lithium should not be given to patients on a salt-free diet. Conversely, the administration of large doses or large amounts of sodium increases the excretion of lithium.

Some of the side effects of lithium include euthyroid goiter, slurred speech, ataxia, tremor, and muscle irritability, and finally, gastrointestinal symptoms such as anorexia, vomiting, or diarrhea.

5. B and D. Many drugs affect the action of oral anticoagulants. They do this principally by inhibiting microsomal enzymes in the liver, inducing the action of the microsomal enzymes in the liver, or displacement of the drug from a binding site. The glutethimide and the barbiturates decrease the anticoagulant effect of warfarin by inducing the action of the microsomal enzymes. Chloral hydrate, on the other hand, increases the anticoagulant effect of warfarin by displacing it from binding sites. Flurazepam apparently has no effect on warfarin requirements.
6. A, B, and C. Some of the phenothiazine derivatives have strong sedative effects. Promazine (Sparine), chlorpromazine (Thorazine), and chlorprothixene (Taractan) have relatively strong sedative effects. Trifluoperazine (Stelazine), however, has a mild sedative effect and should be used when sedation may prove detrimental to the patient's functioning.
7. D. Not all of the phenothiazine derivatives have prominent antiemetic effects. Of the phenothiazines listed in Question G, thioridazine (Mellaril) has a very

weak antiemetic effect and should not be used when this effect is primarily desired.

8. A, B, and C. Amphetamine intoxication can be treated by using any of the major tranquilizers, by the judicious use of propranolol, a beta blocker, and by acidification of the urine with ammonium chloride, which facilitates excretion. The use of atropine is inappropriate.
9. D. Uncontrollable, violent agitation that accompanies a "bad trip" may require medication. If the patient cannot be "talked down" in a quiet place and assured that the undesirable effects will subside, diazepam (Valium) should be given. Phenothiazines such as Thorazine and Sparine can be effective, but should not be used because of the possibility that anticholinergic substances might also have been ingested and the phenothiazines can increase the anticholinergic toxicity.
10. A and C. Naloxone (Narcan) will reverse apnea and coma induced by heroin, morphine, codeine, propoxyphene, methadone, and pentazocine (Talwin) and related drugs. It is the only narcotic antagonist that does not in itself depress respiration. Its action is immediate, but its life span is short and, therefore, two things occur: (1) one can experience withdrawal symptoms; and (2) its effect can wear off and be superseded by the underlying toxicant, which may again reproduce respiratory depression and/or coma. Methadone overdose for example requires monitoring for some 48 to 72 hours. For this reason, any patient suffering from narcotic overdose should be monitored closely for 8 to 24 hours, and be given repeated doses of naloxone (Narcan) as necessary.

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