Special Trauma Training for Nurses in Hospital Emergency Departments

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AMONG THE GOALS of the Albany (N.Y.) Regional Medical Program is improving the delivery of emergency health services. The program serves 24 New York State counties (see map) with a combined service population of approximately 2 million people. All 67 general hospitals in the Albany region maintain emergency departments. Forty-five of these employ physicians part time to provide emergency department coverage. Community physicians, however, are not always readily available to provide this coverage. Even for those institutions that employ emergency department physicians full time, some difficulty is experienced in meeting the demand for their services.

This apparent crisis in meeting the demands upon emergency departments can be attributed to a number of factors, all of which are straining the current system of emergency department care. As a consequence of changes in the structure of medical practice, hospital emergency departments have become an extension of the physician's office, as well as continuing to provide traditional services. In many settings, both urban and rural, hospital emergency departments are serving as community centers for outpatient medical care. Formerly neglected population groups are increasingly aware of the need and demand for adequate medical services. Further strain is placed on community hospital emergency departments by the large volume of traumatic injuries occurring each year in the United States and by the growing number of patients with nonurgent conditions who come for treatment.

Three alternative methods of reducing the magnitude of this growing problem seem readily apparent: educating the public in the more efficient use of the health care delivery system, increasing the numbers of ambulatory care and outpatient medical clinics to handle the patient overflow, and increasing the numbers of emergency department personnel who could perform many of the tasks now being performed by physicians.

The pilot program reported in this paper is addressed to the third alternative. This report describes a study which tested, in a limited setting, the feasibility of providing special trauma training for emergency department nurses, who upon completion of training, would be qualified to provide selected medical and surgical care under the supervision of a physician. In terms of previous training, ready availability, and acceptance by the consumer, it was reasoned that the registered nurse was well suited to fill this expanded role.

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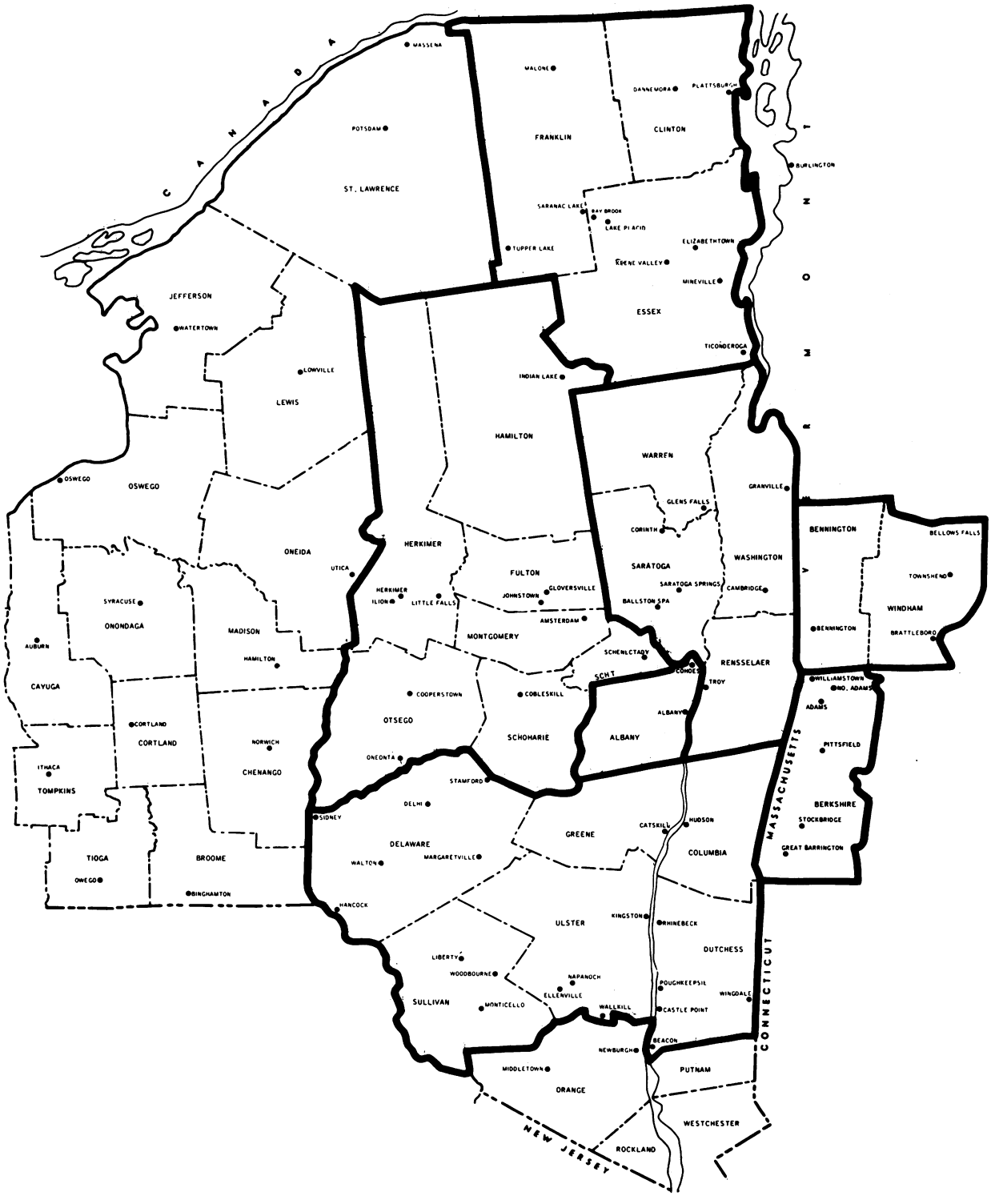
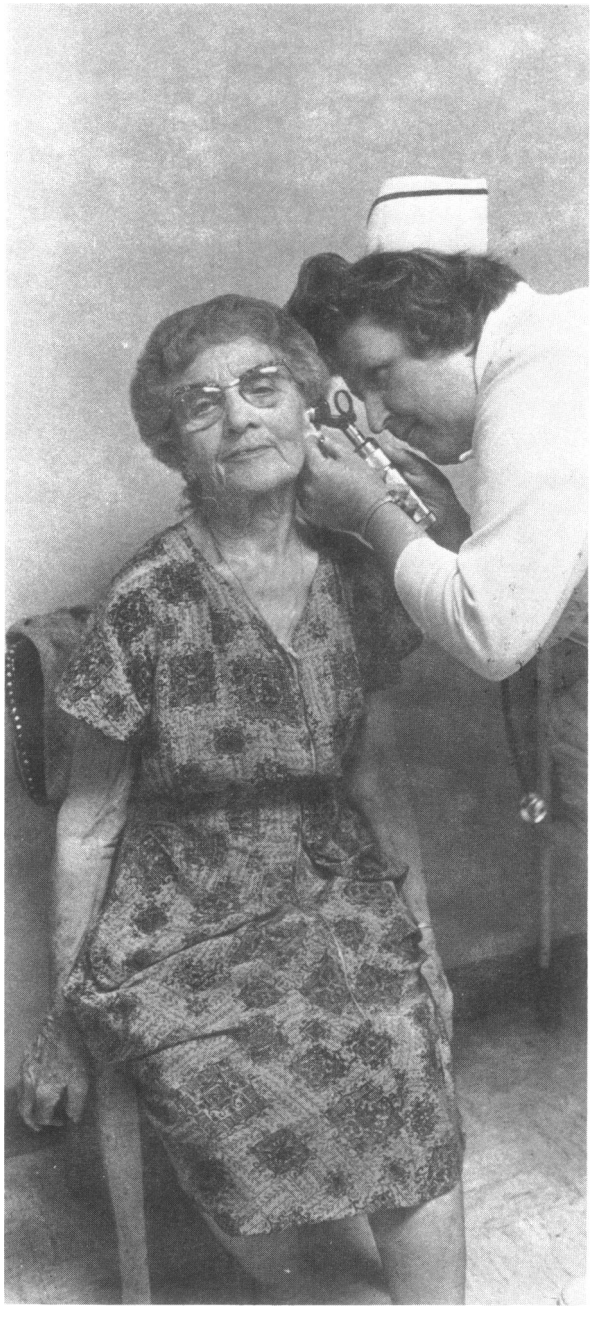
Albany Regional Medical Program including subregions





Nurse practitioner performs a physical examination on an active octogenarian

The development and implementation of the prototype training program was accomplished in two phases.

Phase 1

Phase 1 included the initial planning, promoting, and design of the training program. A regionwide survey was conducted to determine the degree of acceptance of the proposed training by hospital administrators, members of medical and nursing staffs, and emergency department personnel. Results of the survey indicated a wide acceptance of the program as outlined and a willingness on the part of hospital administrators to sponsor nurses to participate in the program.

The records of 400 consecutive prospective and 1,600 consecutive retrospective admissions to the emergency departments of 4 selected hospitals in the Albany region were analyzed for content and divided into clinical categories. These hospitals were selected with reference to number of beds, geographic location, and type of service population. It was judged that this selection represented a reasonably accurate cross-section of the general hospitals in the region. The purpose of this analysis was to assist in the design of a curriculum for the training program. The content of the curriculum was based on the 26 clinical conditions which were reported most frequently in the survey of emergency room admissions.

A nine-member, ad hoc committee, composed of emergency department administrators, such as physician heads and nursing supervisors, served in an advisory capacity to the project. The committee played an important role in the design and development of the training, by assisting in the setting of course objectives, construction of the curriculum, establishing performance criteria, and the like.

A curriculum was designed which stressed the further development of existing skills and the acquisition of additional knowledge in the following topic areas:

A. Gathering of relevant health data:
   1. History taking
   2. Physical examination
   3. Ordering and interpreting of selected laboratory tests
   4. Ordering and interpreting of selected X-rays

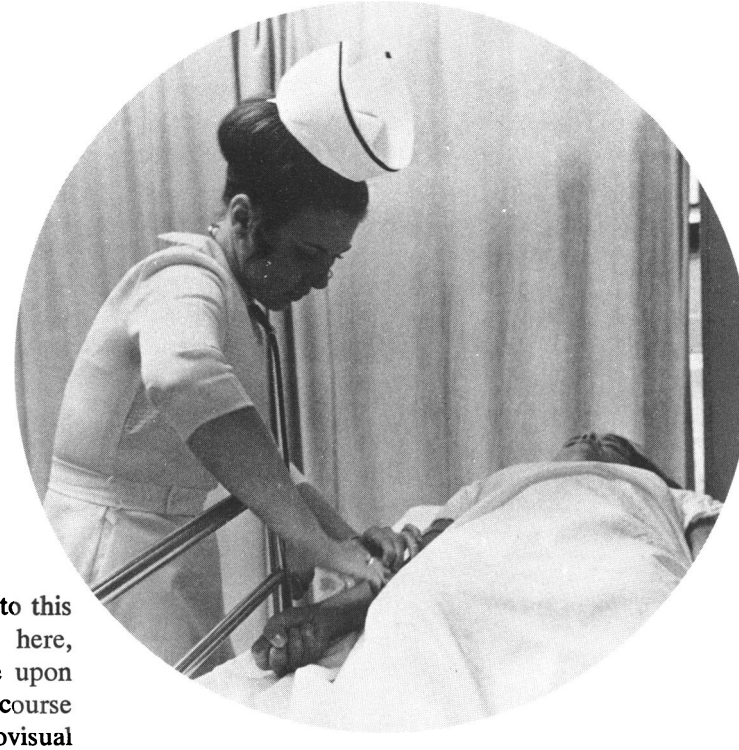
B. Recognition and management of minor conditions:
   1. Upper respiratory tract infections
   2. Abrasions
   3. Minor lacerations and suturing

4. First-degree burns and small, localized second-degree burns
5. Removal of splinters
6. Removal of superficial foreign bodies from the eye
7. Treatment of selected allergies
8. Simple fractures of the fingers and toes

C. Recognition and management of more serious medical and surgical conditions:
1. Lavage
2. Cardiopulmonary resuscitation
3. Intravenous therapy

D. Application of instrumentation:
1. Defibrillation
2. Recording and interpreting of electrocardiograms
3. Cardiac monitoring
4. Intubation

E. Patient health education:
1. Diabetes
2. Cardiac conditions
3. Gastrointestinal conditions
4. Acute and chronic respiratory conditions



Nurse practitioner prepares a patient for intravenous therapy

There are, of course, many more details to this curriculum, and these have been omitted here, but copies of the curriculum are available upon request from the authors. A comprehensive course bibliography was also compiled, and audiovisual materials and related teaching aids were selected and prepared.

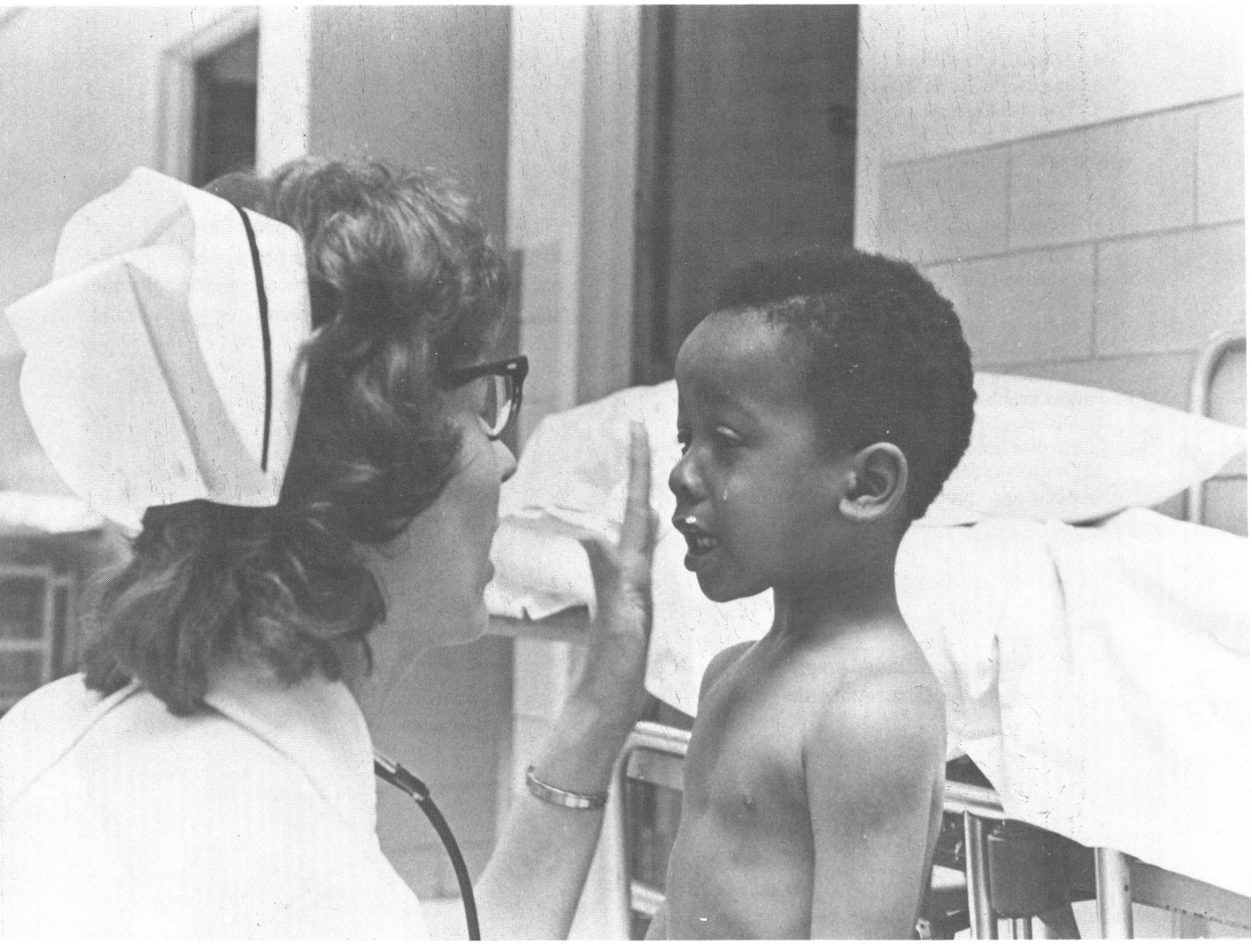
A teaching faculty was identified; it consisted of a total of 51 physicians and other health professionals. The faculty was drawn mainly from the Albany Medical College and the Albany Medical Center Hospital.

As a final step to this first phase, brochures describing the program were distributed to all hospital administrators, directors of nursing, medical directors of emergency departments, and emergency nurses in the Albany region. To obtain as wide a geographic representation as possible for this pilot course, it was suggested that only one application be sent from each hospital. Also, because of the project's exploratory nature, the class was limited to 15 nurses.

Phase 2

Phase 2 represented the operational phase of this pilot project. During this phase, selection criteria developed in phase 1 were applied in the screening of applicants. Approval of the hospital administrator and of the directors of the medical and nursing staffs were basic prerequisites for each admission to the program. In addition, the background, experience, and education of each applicant were carefully examined in the screening process.

Fifteen registered nurses were admitted to the first training program from a pool of 20 applicants. They were sponsored by 10 community hospitals in the region. The initial training course was conducted over a 4-month period ending in January 1973. For the first 6 weeks of training two-thirds of the time (121 hours) was devoted to classroom teaching and one-third (70 hours) to practice and observation in the emergency department. All classes were held at the Albany Medical College. The clinical portion of the first 6



Nurse practitioner comforts a child who has just received an injection to treat an allergic reaction

weeks' training involved the emergency departments and selected medical clinics of the Albany Medical Center and nearby community hospitals.

A comprehensive examination was administered before the start of classes and at the end of the first 6 weeks' training. All of the nurses performed satisfactorily on the post test, and moderate gains were observed between the two testings. Item statistics derived on the examination were used to make modifications for future tests.

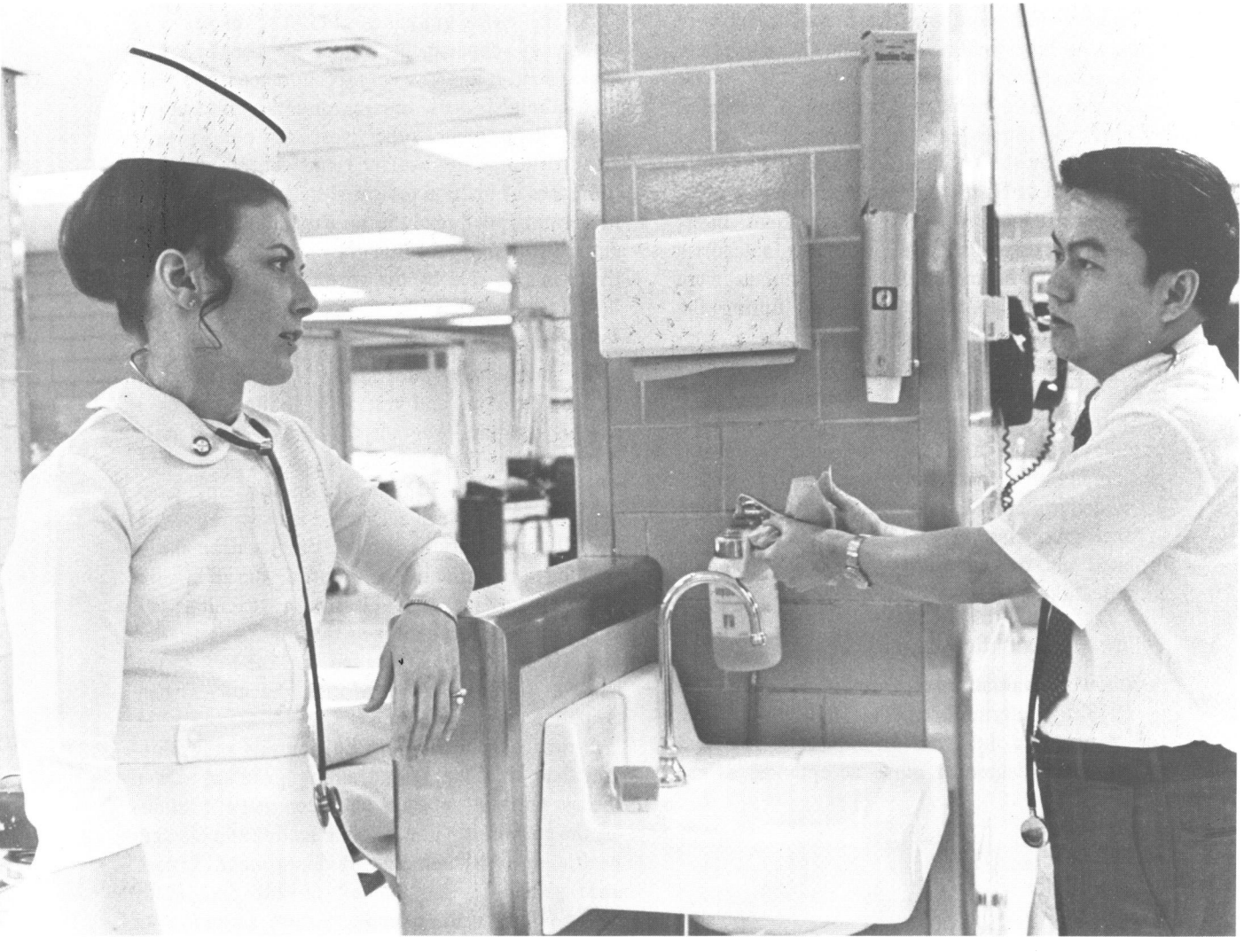
Following the first 6 weeks of classroom teaching and emergency department practice and observation, the nurses returned to full-time duty and participated in a 10-week, on-the-job training experience at the hospital sponsoring them. During this period, the nurse performed those duties which were part of her expanded role under the direction and supervision of a physician preceptor, who was a member of the attending staff of the sponsoring hospital.

Duties performed by the nurse during this pre-

ceptorship included tasks such as physical examination, electrocardiography, cardiopulmonary resuscitation, intubation, defibrillation, intravenous therapy, minor suturing, and evaluating X-rays of fractures. The nurse's performance was evaluated by her preceptor each week, and in summary form at the end of the 10 weeks. Results of these evaluations are discussed subsequently.

Each nurse participant also answered a questionnaire at the end of the first 6 weeks of training. Its purposes were to assess the adequacy and appropriateness of the curriculum, to obtain student views of program administration, and to collect measures of acceptance of the nurse in this expanded role. Answers to this questionnaire indicated that the nurses felt they were generally accepted by the various members of the health team. It is expected that this acceptance will improve as the nurse's role is more clearly defined and understood. Other results were helpful in making administrative adjustments and minor modifications in the curriculum.

Impromptu conference between physician and nurse practitioner



At the completion of the 10-week preceptorship phase, identical evaluation forms were administered to each nurse participant and to each physician preceptor. Questions were asked regarding the level and degree of nurse involvement during this period. That is, an analysis was made of those emergency department duties that the nurse performed alone with the support of a physician. The aim of using identical forms for both the nurses and preceptors was to secure an informal measure of the reliability of reported findings. On the whole, the nurses and preceptors agreed with respect to their views of the level and degree of nurse involvement during the preceptorship period.

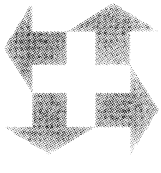
Nurse performance ratings in various clinical categories were also solicited from the preceptors. Finally, the degree of nurse acceptance while performing in the field was assessed. That is, both the nurses and preceptors were questioned with respect to how well they thought the nurse was being accepted in this expanded role.

As was the case during the first 6 weeks of training, the nurses enjoyed a general degree of acceptance by the various members of the health team as well as by the consumer. Consumer satisfaction was inferred from nurse-patient interactions. Across all 25 performance categories listed on the evaluation form, the nurses were rated as doing above-average work during the preceptorship period and were judged to be adequately prepared to assume an expanded role in the emergency department.

Thirteen nurse participants completed the pilot training program and were awarded certificates of completion. Unofficially, the title of "emergency department nurse practitioner" was assigned to the graduates. The remaining two nurses dropped out of the program because of family complications.

Followup Evaluation

A followup evaluation was conducted in the fall of 1973 to determine whether the nurses were still performing duties in an expanded role and to assess the degree of nurse acceptance, as expressed by the nurse and the various members of the health team.



The New York State Medical Practice Act and the New York State Hospital Code do not define the exact nature of a nurse's responsibility, except for the requirement of supervision by a physician. Thus, in each sponsoring hospital, the extent of responsibility to be assumed by the specially trained emergency department nurse was determined by the physician in charge and the hospital administrator, with the approval of the governing body. In this pilot project, the extent of responsibility granted to the nurses varied from hospital to hospital, depending on factors such as staffing pattern and intensity of demand for emergency health services. The New York State Education Department has under consideration approval of the pilot project as a specialized program of study.

All 13 nurse graduates continued to serve as emergency department nurses at the followup evaluation. Interviews were conducted with hospital administrators, nursing directors, and emergency department supervisors to obtain their views of nurse performance and acceptance. The consensus of opinion indicated that the nurses were performing adequately in an expanded emergency department role and that they were viewed positively in this role by the various members of the health team.

Summary and Conclusion

In summary, a pilot study was conducted to design, develop, and test in a limited setting a special training program for emergency department nurses. The goal was to provide more effective and efficient health care in the emergency department. Thirteen registered nurses, representing 10 community hospitals, completed an initial training program of 4 months' duration. Six weeks were spent in classroom teaching and emergency department practice and observation and 10 weeks in supervised, on-the-job experience at the hospital sponsoring the nurses' participation in the program.

It was concluded from an analysis of evaluative data that the pilot training program was a success and that progress had been made in fulfilling the goal of providing more effective and efficient health care in the emergency department. Experience gained in the conduct of this pilot study will be helpful in planning future programs of this kind.