

Redesigning technician training to accommodate more students and enhance learning

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Management Case Studies describe approaches to real-life management problems in health systems. Each installment is a brief description of a problem and how it was dealt with. The cases are intended to help readers deal with similar experiences in their own work sites. Problem solving, not hypothesis testing, is emphasized. Successful resolution of the management issue is not a criterion for publication—important lessons can be learned from failures, too.

Problem

A few years ago, the number of students in our pharmacy technician training program began to increase substantially. Furthermore, during re-accreditation of our program by the American Society of Health-System Pharmacists in 1998, it was recommended that we increase the clinical experiential component of the training. Our existing laboratory space and clinical rotation training sites could not accommodate this influx of students and the additional clinical emphasis.

Background

The Pharmacy Technician Training Program at the Naval School of Health Sciences (NSHS) in Portsmouth, Virginia, is the U.S. Navy's sole training site for pharmacy technicians and is accredited by the American Society of Health-System Pharmacists. This program also occasionally trains technicians for the U.S. Coast Guard. Formalized pharmacy technician training in the Navy began in 1955 at the current training location. A second training site was

established in 1957 in San Diego, California, but operations there ceased in 1995.

The training program is 23 weeks long and includes 836 pharmacy-specific training hours. These hours are divided into didactic training (443 hours), laboratory and practical training (289 hours), and clinical training (104 hours). Clinical experience occurs at the Naval Medical Center in Portsmouth and at three associated medical clinics in the Tidewater area of Virginia. Upon graduation, students are awarded the Navy enlisted classification of hospital corpsman-pharmacy technician.

The Pharmacy Technician Training Program convenes four classes per year, with a maximum class size of 40 students. The class size, which

had seldom exceeded 25 before 1997, began increasing into the high 30s since that time. Before 1997, clinical training occurred during the last two weeks of the curriculum, at which time the students were essentially done with training and awaiting graduation. Neither the clinical rotation sites nor the laboratory and practical training spaces could physically accommodate the more recent student load of 30–40 students per class.

The existing layout of the laboratory and practical training facilities did not permit optimal training in patient counseling and sterile product preparation, nor did it reflect the standard of Navy pharmacy practice. The laboratory (1850 ft²) consisted of two cramped sterile product preparation areas, one large open bay designated as a dispensing laboratory, one small cramped auxiliary dispensing laboratory, and four standard "wet" laboratory benches used for compounding. The sterile product preparation areas were inadequately designed, and there was no requirement for four compounding benches.

Analysis and resolution

With recognition of the trend in pharmacy operations toward the use of bank teller-style windows for outpatient dispensing, it was determined that a redesign of the facilities was nec-

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essary. Navy pharmacy describes this system as a patient-oriented dispensing system (PODS). The PODS concept utilizes multiple windows, each identically outfitted and stocked and staffed by a technician or pharmacist. This design expedites prescription processing and facilitates counseling with the ultimate goal of improved patient compliance and better clinical outcomes.

To address the increased student load, a modified clinical and laboratory training cycle was implemented. Half of the students rotated through clinical sites every Thursday and Friday beginning in week 12 of the curriculum, and the other half participated in laboratory rotations. The net result was a decrease in the student load at the clinical sites from five or six students per site to two or three. Laboratory rotations were divided into teams of six students, with each team rotating through the four laboratory elements (compounding, sterile products, dispensing, and typing and computers).

The training program is now equipped with a modern laboratory facility. All equipment (except compounding benches) is modular and easily transportable.

Discussion

Benefits of the modified curriculum include providing the clinical training sites with a maximum of three students every Thursday and Friday year round. This alleviates the "mass attack" of students during the old two-week rotation and provides these sites with regularly scheduled auxiliary staffing. The student load is more manageable, which enables individual students' progress to be monitored so that weaknesses can be specifically addressed. There is more interaction between students and instructors, greater satisfaction, and less student "downtime."

Because of the ergonomic redesign of the laboratory spaces, NSHS has a memorandum of understanding with the Naval Medical Center that it will

serve as the site of extemporaneous compounding for all compounded pharmaceuticals dispensed at the medical center. The effective use of instructor skills, student personnel, and physical space provides for a mutually beneficial relationship between the organizations. The goal of the NSHS Pharmacy Technician Training Program is to serve as a model for

other pharmacy training programs, both military and civilian.

Conclusion

Reengineering laboratory spaces to improve the training environment and modifying the curriculum to increase clinical exposure enhanced the learning experience in a pharmacy technician training program.