Computer Health-Care Training

Nothing in hospitals is done without training these days—least of all in upgrading an institution's computer system.

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Implementing a new computerized patient management system in a large medical center requires incisive planning—for the needs of the management, employees, and patients for whom the system has the greatest impact. The Oklahoma Teaching Hospitals (OTH), a state-supported, comprehensive health care facility, recently underwent such a change in the outpatient registration department at all three of the institution's facilities. And, creation of a comprehensive training program was deemed crucial to the success of the change. [The previous admissions, discharge, transfer (ADT) system at OTH used a time-sharing framework with the parent agency, the Department of Human Services. Due to high patient volume, the inadequacy of this method soon became apparent.] Early recognition of the need for training greatly facilitated the system change. Case histories within the hospital, itself, and other organizations have demonstrated that computer-system change or implementation without training can fail. It may result in worker frustration, incomplete usage of the system's capability, and even in nonusage.

Analysis of the proposals resulted in the selection of Phamis, Inc., as the vendor for the project. Phamis software operated on the existing Tandem hardware and also had infinite expansion capabilities, an important cost containment feature. Once the vendor was chosen, the project committee developed an implementation schedule and user education. The hospital's human resource development unit was asked to provide a comprehensive training package for approximately 500 employees prior to implementation. The scope of the effort required assigning one full-time HRD trainer to the project. And, an individual from the admissions office was assigned full time. Before the project was completed, one other trainer and the HRD director would become involved in the actual training.

Not just software

Training needs were not limited to implementation of a new software package. Two additional content areas were identified: Customer relations and the software package itself.

Before the computer training process began, a customer relations program had been initiated in the hospital. Since customer relations had been identified as a particular need in the admissions area, it became part of what was referred to as pre-computer training. The entire admissions office, apart from the rest of the hospital staff, was scheduled to receive customer relations training on the "OTH Image." This program was developed in-house by the HRD staff to examine the existing hospital image, the uniqueness of hospital customers, and people skills including listening and telephone effectiveness. A second customer relations session on professionalism was developed specifically for the admitting group, to cover topics such as appearance and attitude, positive thinking, constructing appropriate interview questions, and responding to hostile customers.

The customer relations training part of the process took six hours and stretched over six weeks, ending two weeks before the computer training began. Employees were given certificates at the end of those two classes for professionalism in hospital admissions. Throughout that training the instructors were continually promoting the new software system and the advantages that it was to bring to the admissions process.

Using the computers

The software training was offered to a larger population. (Original estimates indicated that about 300 individuals would receive some training.) Three groups needing software training were identified: ADT, demographics, and physicians. The six-hour, two-session ADT training included admissions staff only. More limited in scope, the demographics training was intended for staff who only needed to retrieve basic patient demographic information . Demographic training lasted three hours. The sessions for physicians were usually just an hour in duration and served as much as a demonstration as a training session.

The software training comprised four phases. First, Phamis developed a tutorial on the computer and written material to accompany the training. Training the trainers followed. In that session, the in-house training staff was introduced to the training tutorial, the complete training package, and the written materials.

Third, the training responsibility was transferred to the HRD staff and the trainer who had been identified from the admitting office. The Phamis trainer led the first two days of training. Then, the HRD and admitting trainers took over and did the bulk of the training over the next six weeks.

ADT training began with the computer tutorial. It introduced participants to the layout of the new terminal, the special function keys, and elements of the ADT process. The trainers switched from assisting to directing for the second part of the session. They reviewed the tutorial and then directed participants through the steps of the ADT process. The participants then came back after one to three days to review the functions on their own with the trainer assisting. At this session, participants signed confidentiality statements as part of their request for user identification number. A short delay in getting the system started freed an additional three weeks for training. This time was spent training admitting staff.

The training's fourth phase kicked in when the system went active. On the first

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day of system activation, the trainers were located throughout the hospital in different admitting areas. It was their function to provide assistance and additional on-site training as needed. This follow-up continued for two weeks after the implementation.

The follow-up also had an ongoing element to it. A regularly scheduled training session for all new admissions staff members after new employee orientation occurs twice each month and remains open to employees who, due to some job change, are now required to have the training. Despite efforts early in the development of the system to project an accurate number of employees needing training on the system, different units are continuing to identify individuals that must have the demographic part of the training.

Logistics and support

The most difficult part of the system was scheduling employees for the training. It had to include people working three shifts and avoid increasing costs by paying overtime. The training schedules had to remain flexible in order to meet those needs and to ensure a one-to-four trainer-to-participant ratio for the ADT component. The maximum class size was eight, matching the number of designated training terminals.

Had the administration not taken a hard-line approach, training attendance might have suffered. As it was, attendance was almost always 100 percent.

An effort was also made to support the training with a reward system. Training staff verbally encouraged learners, looked for strengths in the system, and sought changes when participants found legitimate problems. As mentioned earlier, certificates were given to the admitting staff after they completed the customer relations training. What's more, all participants completing the software training received "I'm Phamis Trained" buttons provided by the software vendor.

An element that remains important is patient information computer security. System users are not given an identification number until they have received training, a procedure enforced by hospital policy. The security system is covered during the computer training, and employees sign a confidentiality statement as well as complete a form requesting a user ID number.

Evaluation

The day the system went on-line, 427 employees had been trained and were ready to use the system. Ninety-seven employees had been trained in the full ADT system, 310 in demographics, and 20 physicians had been introduced to the program. Employees came from 15 different departments.

All training sessions were evaluated by the participants. Their input was solicited in such areas as clarity of objectives, organization, usefulness of the tutorial, attitude and helpfulness of presenters, effort of participant, and overall rating of the class.

The rating instrument was a typical Likert scale with low being 1 and high being 5. A choice for "does not apply" (N/A) was also added to the scale. The mean score for each item was calculated for the entire group of evaluations. The means of all the items were 4.5 or above. The overall evaluation mean for all the classes was 4.64.

Participants were asked open-ended questions about aspects of the training they found particularly helpful. The evaluation mean, plus the favorable comments, indicated that training was well received. Many participants commented on the helpfulness of the tutorial and the trainers. Though the training staff was ready to redesign the evaluation form, the classes (and the observations as the system went live) indicated no need to do so.

Two recommendations were made for future changes. First is an actual competence test after training. Though there were only four or five problem users when the system went live, a more elaborate testing would have identified them clearly. Second (and related), retraining individuals not reaching competence at the end of training was necessary.

Training of users will be of major concern for the next three to four years because total implementation and conversion of the hospital's information processing will take that long. Several new features will be added, including general accounting, clinical laboratory results reporting, case mix/DRG analysis, medical records, chart deficiency, and pharmacy. Training will be provided to the new system users as each element is added.