Title: DOES A QUALITY ASSURANCE PROGRAM IMPROVE PATIENT CARE

Authors: B. Schreider, M.D., Ph.D., M. F. Roizen, M.D., L. Lichtor, M.D., R. Roberts, M.D., M. Keamy, M.D., S. Polk, M.D., M. Delisi, R.N., and R. Holmes, A.B.

Affiliation: Department of Anesthesia and Critical Care, The University of Chicago, Chicago, Illinois 60637

Introduction. The new requirements of the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) are burdensome: They require review of the care of every patient for opportunities to improve care (1). This requirement would be even less appealing if it just increased paperwork and didn't result in improved care. We prospectively sought to determine if the implementation of the additional JCAHO quality assurance requirements mandated after 1985 did, in fact, result in improved care.

Methods. In addition to usual departmental quality assurance conferences (formerly called Morbidity and Mortality rounds), and voluntary reporting of opportunities (indicators) to improve care, we instituted mandatory completion of three forms: Indicators for opportunities to improve care (termed three computer IOIC forms); one for pre and intraoperative care, one for care in the immediate postoperative period, and one that examined indicators for improving care in the period after discharge from the recovery room (or after the immediate postoperative period for patients who went to an ICU). These indicators for opportunities to improve care are self reported episodes of all incidents in care that are deviations from stability and are listed by system (e.g., hypotension requiring treatment under cardiovascular system, delay in case start due to pursuit of an abnormal laboratory finding under preoperative preparation, etc.). The postoperative forms were completed by a nurse trained to make post-anesthesia visits and assess the patient for anesthesia related postoperative complications. These were entered into a computer and sorted monthly by system affected, resident or CRNA and attending, and month. Ten percent of all patient charts were reviewed daily for completeness of recording of indicators for opportunities to improve care (IOIC's). The IOIC's were reviewed monthly by a department quality assurance committee. Those IOIC's present in significant numbers (more than four occurrences per month [approximately 1200 operations]), or whose pursuit is perceived by the committee to offer a real opportunity for improving care, were presented at a biweekly department quality assurance meeting, at which attendance by all department members is mandatory. The conclusions, recommendations, actions, and planned follow-up of such meetings were distributed to all care givers in memo form (CRAF memos).

To determine if this increased effort improved patient care, we sought not just to spot anecdotal evidence of individual changes in care, but rather to see if the IOIC's changed over the months, and if recovery room scores improved. The data was analyzed by chi-square and a test for trends in proportions statistics.

Results. Survey of ten percent of all anesthesia and postoperative care records indicated the self-reporting mechanism worked--in no month did more than 3 percent of charts contain an IOIC that was not recorded on the IOIC sheets. In addition, completion of each of the three computer IOIC sheets increased each month after they were introduced (table). More importantly, the total number of IOIC's decreased monthly. In addition, several specific problems (for example, recovery room hypoventilation associated with midazolam and fentanyl sedation which occurred on 0.4 percent of records in month four) disappeared after discussion at QA meetings. In addition, episodes of PACU scores on arrival in the recovery room of 6 or less decreased from 4 percent to less than 1 percent over the first seven months the system was employed.

Percent Completion of Each of 3 IOIC Forms

Month		Pre-intra Op Form	PACU Form	Post Op Form	# IOIC's (calc as if 100% ret)
Aug	1	44.2	18.2	16.4	238
Sept	2	68.7	36	31.7	206
Nov	4	84.3	65	38.4	196
Jan	6	85.6	71.8	80.6	174
Feb	7	88.7	79.5	88.5	153
		*	*	*	*

*$P \leq 0.05$ or greater

Discussion. While the data do not unequivocally indicate that the burdens of the new JCAHO requirements for survey of every patient for IOIC's does improve care, they certainly indicate that they may do so. The screening of ten percent of all charts for accuracy of the IOIC computer forms indicates that alterations in reporting are not likely due to changes in reporting frequency. We cannot determine if the improvement is due to changes caused by the QA meetings, CRAF memos, a "Hawthorne" effect--everyone sees the IOIC's daily and practices better, or normal increased learning of residents. Nevertheless, it does appear that the department's direct expenditure of approximately $70,000/yr ($5/pt) may not be just creating paper to fulfill bureaucratic requirements. However, these changes occurred as residency classes were gaining more experience, and future studies will be needed to verify that this improvement continues.

References.

1. Joint Commission for Accreditation of Healthcare Organizations