

Evaluating the effectiveness of a process medical audit in a teaching general hospital

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Medical auditing has moved beyond the traditional chart review to the process audit, which identifies deficiencies in care and suggests remedies. In 1981 the audit committee of the Department of Psychiatry at Toronto General Hospital audited the use of hypnotic drugs in the inpatient unit. The audit produced two recommendations: that nursing staff record sleep graphs for inpatients more often, and that an educational program be instituted to change the physicians' patterns of prescribing hypnotics. In 1983 the audit was repeated to test the effectiveness of the 1981 auditing process. The 1981 recommendation produced the desired improvement in recording of sleep graphs. However, the medical staff failed to change their patterns of prescribing hypnotics: oxazepam remained the preferred hypnotic. For the process audit to be effective in improving patient care those using it must ensure that the methods reflect the nature and structure of the professional group they are trying to influence.

La vérification de la qualité du travail médical ne s'en tient plus à la traditionnelle revue de dossiers. L'examen des manières de procéder a pour but de reconnaître les carences dans les soins et d'y proposer des correctifs. En 1981 le comité de vérification du service de psychiatrie du Toronto General Hospital passait en revue l'usage des hypnotiques chez les malades internes et formulait deux recommandations: un recours plus fréquent au graphique du sommeil par le personnel infirmier, et une rééducation des médecins visant à modifier leur prescription des hypnotiques. En 1983 la contre-vérification, si elle montre une amélioration de la tenue du graphique du sommeil,

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ne révèle chez les médecins aucune modification de leur manière de prescrire: ainsi l'hypnotique préféré reste l'oxazepam. La vérification des manières de procéder ne sera efficace dans l'amélioration des soins que si elle tient compte de la nature et de la structure du groupe professionnel visé.

Recent concerns about the cost of health care delivery have stimulated increased demands on the health care professions to control the quality of care given. Indeed, the Canadian Council on Hospital Accreditation now requires that medical staff of accredited hospitals not only regularly review the quality of patient care but also encourage improvements.¹

The medical audit has been the usual instrument for measuring quality of care. The audit committee checks to ensure that all parts of each medical record have been completed and signed. However, the committee does not assess the validity of the record — that is, the extent to which the record reflects the accuracy of the diagnosis, the quality of care given and the outcome of care. As such, the traditional audit is confined solely to the structure of the medical records and, therefore, can identify only the most obvious deficiencies; it has little effect on the patterns of physicians' practices.

The "process" medical audit attempts to overcome the deficiencies of the traditional audit by systematically evaluating patient care to establish whether specific actions have been taken.¹ Typically the audit committee selects a medical condition to be audited and secures the agreement of the medical staff about the criteria of acceptable management of this condition. It then chooses a sample of records of patients with that condition and examines each record to determine how well the health care staff have complied with each criterion. As a result of the audit the committee prepares a report that identifies deficiencies and suggests remedies, such as an educational program, a change in staff regulations or a change in procedures.

Legislative bodies and the health care profession perceive auditing to be a valuable procedure for ensuring that care is of high quality. Awad and colleagues² reported that in 50% of the psychiatric facilities they surveyed, the staff believed that because of the audit the quality of psychiatric care had improved; over 70% of the facilities that had instituted audits agreed that the audit had been educational, and 45% of the facilities without audit procedures planned to introduce them. Awad³ has described a modified process audit for teaching psychiatric residents to use psychoactive drugs.

We describe a process medical audit that was used in 1981 to examine the use of hypnotic drugs in an inpatient psychiatric unit and the results of an attempt in 1983 to measure the effectiveness of the original auditing process in changing practice patterns.

Methods

In 1981 the audit committee of the Department of Psychiatry at Toronto General Hospital decided to examine the patterns of prescribing hypnotic drugs in the inpatient department, a 42-bed general unit with both "secure beds" and a brief-stay crisis program for adults.

The committee was not able to formulate a unanimously acceptable set of universal criteria for the prescribing of hypnotics because of the heterogeneity of the problems seen. However, it was able to agree that the ideal hypnotic drug should have a rapid and predictable onset of action, induce as "normal" a sleep as possible and allow the patient to wake refreshed and devoid of any cognitive impairment or "hangover".^{4,5}

The committee reviewed the charts of patients consecutively admitted until it had 30 records that contained both evidence of administration of a hypnotic and a sleep graph (a record of the hypnotics given and the number of hours the patient slept in each 24-hour period). The sample size was determined by the guidelines of the Canadian Council on Hospital Accreditation.⁶ The patients had primary diagnoses of psychotic illness, affective disorders or situational adjustment disorders; insomnia was a secondary problem.

As a result of the audit the committee recom-

Table I—Hypnotic drugs prescribed in 1981 and 1983 for consecutively admitted patients whose records contained both a sleep graph and a prescription for a hypnotic

Hypnotic	No. of cases	
	1981 (n = 30)	1983 (n = 30)
Oxazepam	25	28
Chloral hydrate	4	4
Lorazepam	0	3
Others	2	2

mended that a sleep graph more often be recorded for inpatients, especially when hypnotics were prescribed, and that an educational program be instituted to change the existing patterns of prescribing hypnotics. The committee was concerned about the prevailing use of oxazepam as a hypnotic, for several reasons:

- It is slowly absorbed.⁷⁻⁹
- Its absorption is delayed by food or antacids.
- The British Committee on the Review of Medicines had specifically excluded the use of oxazepam as a short-term treatment of insomnia in preference for lorazepam, temazepam or triazolam.¹⁰
- Oxazepam has no effect on the latency of the onset of sleep.^{11,12}
- The 60-mg dose often prescribed at that time negated the rationale for using oxazepam — the prevention of daytime drowsiness — which is only valid when the dose is less than 45 mg.^{8,12}

The recommendations were implemented in 1981. The nursing staff was asked to maintain a sleep graph for each patient, and, because of the educational presentation at grand rounds, the medical staff agreed that the use of oxazepam as a hypnotic should be reduced in favour of hypnotics that were theoretically and clinically more acceptable.

To determine the effectiveness of the 1981 audit the committee reviewed a sample of patients' records for 1983 using the same methods as in 1981.

Results

In 1981 the committee had to examine records for 96 consecutively admitted patients to obtain a sample of 30 that met the selection criteria; 47 (49%) of the 96 contained a sleep graph and 60 (62%) a prescription for a hypnotic. In contrast, it needed to review only 40 records in 1983 before obtaining 30 that were acceptable; 39 (98%) of the 40 contained a sleep graph and 30 (75%) a prescription for a hypnotic.

In 1981 oxazepam (30 mg) was the hypnotic prescribed for 25 of the 30 patients; in 16 cases the order authorized a repeat of 30 mg after 1 hour. In 1983 oxazepam was the hypnotic prescribed for 28 of the 30 patients (Table I).

To ensure that the characteristics of the patients in the two audits were comparable the committee compared the sex, age, length of stay in hospital and concomitant psychotropic medication of the two groups: there were no significant differences found in unpaired *t*-tests and chi-square tests (Table II).

Discussion

It is evident from these results that the recom-

mendations of the audit committee did improve the documentation of sleep by means of a sleep graph but did not affect the medical staff's patterns of prescribing hypnotics.

The compliance with the recommendation for a sleep graph appears to have been a response to the perception that such a graph is useful in gauging the efficacy of any hypnotic prescribed. Also, the compliance seems to reflect the organizational structure of the nursing staff; that is, a policy instituted by head nurses is followed by the nursing staff.

The medical staff, in contrast, failed to abide by their 1981 agreement to reduce the use of oxazepam in preference for more therapeutically rational hypnotics. In fact, in the period 1982 through 1984 the rate of prescribing of oxazepam hospital-wide rose from 9000 to 16 000 tablets per month because the staff preferred a short-acting benzodiazepine. The lower compliance of the medical staff may be partly explained by the fact that this group, in contrast to the nursing staff, is loosely knit, having no specific hierarchy. In addition, those who are responsible for ordering medication, the medical house officers, are continually changing; therefore, although the educational presentation in 1981 may have produced a change in the prescribing of hypnotics by the house staff then assigned to the psychiatric unit, by 1983 the service was staffed by different residents, who had not participated in the 1981 grand rounds. Although all new house officers are taught about the prescribing of antidepressants and neuroleptics, and their practices with those drugs are subsequently monitored, it seems that they are not taught about hypnotics, perhaps because there has been a somewhat *laissez-faire* attitude toward the prescribing of these drugs.

The success of process medical audit in changing nursing practices and the failure of the audit to change physicians' prescribing practices suggest that those using the medical audit to improve quality of care must ensure that the methods by which they attempt to change practices reflect the nature and structure of the professional group they

are trying to influence. The organizational structure of the nursing staff in a hospital facilitates compliance of nurses with any specified policy. However, on services in which the resident house staff is prescribing most of the medications the audit committee must establish some repetitive educational program that is more likely to ensure the compliance of every new house officer with the established standards of quality health care.

In addition, agreement by supervising physicians on the specific criteria of quality care is not enough to change the prescribing practices of successive groups of residents, interns and medical students. The supervising physicians must be helped to acquire sufficient commitment to an agreed standard of care to ensure that they reinforce the prescribing practices of their students.

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Table II—Characteristics of the two groups of patients

Characteristic	1981 (n = 30)	1983 (n = 30)
Sex, no. of patients		
Male	12	15
Female	18	15
Age, yr		
Median	31.5	36
Extremes	18, 74	20, 79
Length of hospital stay, d		
Median	34.5	21.4
Extremes	1, 249	1, 109
Receiving concomitant psychotropic medication (antipsychotic/antidepressant), no. of patients	23	24