COMPUTERS IN THE EXAMINATION ROOM

TITLE: Are patients pleased with computer use in the examination room?
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Clinical question. **Does the use of a computer to record a progress note during the patient encounter affect the patient's satisfaction with the encounter?**

Background. Despite the widespread adoption of computers in nonmedical fields such as business, science, and engineering, and the increasing use of computers to manage patient accounts in the outpatient setting, relatively few family physicians use computers to record patient encounters. This is also despite potential advantages of computerized patient records (CPR), such as reduced cost, greater accuracy, and increased legibility, as well as their widespread adoption in England and other European countries. The use of CPR also facilitates the use of computerized decision-support applications, such as computer-aided diagnosis, preventive care reminder systems, computer-assisted dosing and drug reminders, and computer-aided quality assurance, none of which are possible using a paper medical record.[1–4] Some physicians have hesitated to adopt CPR because they are concerned that computers may divert attention from the patient, thereby making the encounter less personal, and that using CPR will reduce the confidentiality of medical records.

Population studied. The population studied consisted of a random sample of 120 new adult patients drawn from a total of 600 presenting over a 6-month period to a two-physician family practice in a middle-class suburb of a large metropolitan area. Of these, 60 were randomly selected for analysis, although analysis on the entire group of 120 was also performed and reported.

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Study design and validity. The design was a single crossover trial, in which the independent variable was whether the physician used a traditional written record or a computer-based record. The type of computer-based record studied involved simply typing the progress note on a laptop computer while in the examination room. It was not a true crossover trial in that patients did not receive both the control and experimental treatments in sequence, for example, the same patient having a written encounter one day and a computer-based encounter 2 weeks later.

Strengths of the study included randomization to written or computer-based record groups by the front office personnel, and blinding of the physicians to the extent that they did not know whether a patient had consented to participate in the study. A sample-size analysis was performed to determine an adequate number of patients for the study. Previously validated questionnaires were used to assess patient satisfaction, and analysis was appropriate. The major weakness of the study was lack of information on the nonparticipants, which was needed to determine whether this rather select group of 10% of the presenting new patients was perhaps younger, better educated, or more computer literate than patients in a typical family practice.

Outcomes measured. Patients completed pre- and postparticipation questionnaires describing demographic characteristics, previous experience with computers, and their level of satisfaction with the patient-physician encounter.

Results. Paper-based and computer-based record groups were generally similar with regard to sex, age, marital status, and level of education. However, the participants as a whole had a high rate of computer experience, with 20% "somewhat familiar" and 62% "familiar" or "very familiar" with computers. There was no difference between paper-based and computer-based record groups regarding global satisfaction, perceived level of physician distraction, satisfaction with the level of eye contact, and degree of listening. Interestingly, some patients did not even appear to be aware that a computer was used during the examination.

Recommendations for clinical practice. **This well-designed practice-based trial by family physicians supports the premise that computers in the examination room do not interfere with the physician-patient relationship. While it had sufficient sample size to detect fairly small differences in opinion (0.25 on a 5-point Likert-type scale), it would have been even more con-**

vincing if the authors could have stated that the patients were typical of those seen by most family physicians. Physicians should consider adopting a computerized patient record for their practices, particularly if they practice in a managed care environment, since such a setting places a premium on efficient use of resources, avoidance of duplicated efforts, accurate and legible recordkeeping, and effective communication with both patients and colleagues.

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References

1. Johnson ME, Langton KB, Haynes RB, Mathieu RB. Effects of computer-based clinical decision support systems on clinician performance and patient outcome: a critical appraisal of research. Ann Intern Med 1994; 120:135–42.
2. Austin SM, Balas EA, Mitchell JA, Ewigman BG. Effect of physician reminders on preventive care: meta-analysis of randomized clinical trials. In: Ozbolt JG, ed. Proceedings of the 18th annual symposium on computer applications in medical care. New York: McGraw-Hill, 1994:121–4.
3. Borowitz SM. Using a computerized patient record to reengineer an outpatient clinic. In: Ozbolt JG, ed. Proceedings of the 18th annual symposium on computer applications in medical care. New York: McGraw-Hill, 1994:286–90.
4. Bernstein RM, Hollingworth GR, Wood WE. Prompting physicians for cost-effective test ordering in the low prevalence conditions of family medicine. In: Ozbolt JG, ed. Proceedings of the 18th annual symposium on computer applications in medical care. New York: McGraw-Hill, 1994:824–8.

TMP/SMX FOR ACUTE MAXILLARY SINUSITIS

TITLE: Randomized controlled trial of 3 vs 10 days of trimethoprim/sulfamethoxazole for acute maxillary sinusitis
AUTHORS: Williams JW, Holleman DR, Samsa GP, Simel DL
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Clinical question. **Can we treat acute maxillary sinusitis with 3 days of trimethoprim/sulfamethoxazole (TMP/SMX) without altering 14-day outcomes and relapse rate?**

Background. Acute sinusitis is a common problem in primary care. Treatment of patients with antibiotics is widely accepted even though there are no clinical trials clearly documenting the value of this treatment. Length of treatment has arbitrarily been set at 10 to 14 days, but there are no studies to demonstrate the value of shorter or longer lengths of treatment. Reducing the length of treatment would dramatically reduce costs associated with this prevalent problem.

Population studied. All patients studied came from the general medical, employee health, and medical walk-in clinics of the Durham, North Carolina Veterans Administration Medical Center. Diagnosis was confirmed by radiography in patients who presented with nasal discharge of any quality, facial pain, or self-suspected sinusitis. Patients were excluded if they had symptoms longer than 1 month, if they were immunocompromised, had had previous sinus surgery, or had used antibiotics within the previous week. Results are, therefore, limited to adult patients with variable symptoms and a radiographic diagnosis of sinusitis. These are not the criteria generally used in office practice. In an earlier study (*Williams JW, Simel DL, Roberts L, Samsa GP. Clinical evaluation for sinusitis: making the diagnosis by history and physical examination. Ann Intern Med 1992;117:705–10*), the authors developed a set of criteria for the diagnosis of sinusitis. We do not know why these selected criteria were not used in the current study.

Study design and validity. This is a well-designed, randomized, blinded, controlled trial. Follow-up was excellent, with 95% of the 80 patients randomized. However, all groups received decongestants, so the role of antibiotics and decongestants used independently was not tested.

Outcomes measured. The primary outcome measured was number of days to "cure" or "much improvement" in sinus symptoms assessed at 7 days by telephone and 14 days in the clinic. Patients who were considered clinical successes were evaluated for relapse at 30 and 60 days. Additionally, radiography-verified improvement between entry and 14 days was evaluated.

Results. Of the 447 patients who were approached, 343 were radiographed. Two hundred sixty-three were not randomized because they had normal radiography results or evidence of sinusitis other than maxillary. Eighty patients were eventually randomized. Forty received 3 days of TMP/SMX and 7 days of placebo, and 40 received 10 days of TMP/SMX. All patients were treated with 3 days of topical decongestants. Compliance evaluation demonstrated that patients followed the recommended treatments. No clinically or statistically significant difference was demonstrated between the groups in terms of symptomatic improvement or radiographic follow-up. Relapse rate of groups was 15% and 18%, respectively, but this difference may not be significant because of a wide 95% confidence interval.

Recommendations for clinical practice. **This study seems to provide some evidence that a shorter course**