# Computers and doctor-patient communication

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Computers have changed medicine but we are still unsure about the effects of computers on doctor patient communication. This editorial will review relevant literature and speculate on new directions in the light of current challenges.

Recent local discussion has focussed on difficulties family doctors face with computers in the consulting room. Slow servers and long response times with electronic medical records are prolonging consultations. Clinical software is unfriendly. Doctors are burdened with pressure from patients, administrators, and personal issues. How did we get here and where are we going?

Family doctors obtained computers in the 1980s in many countries. Mainframe medical computers had been available thirty years earlier. Doctors with special interests in research were able to study their lists with the help of database programs. Affordable, small machines and practical software for medical record keeping made it possible for doctors to use computers in daily practice. In Portugal, computers arrived in the clinic after 2000. Local record-keeping software permitted statistical analysis of patient lists only three years ago.

A revolution occurred with the development of the Internet and easy access to medical journals, multimedia files and consultant opinions. Patients may adopt new technology faster than doctors. High rates of internet use by patients for health information have positive effects on the doctor-patient relationship for both doctors and patients.[1,2] Electronic communication with patients can be used for therapeutic purposes as well as information needs, as was explored here in a recent editorial.[3]

Technology provokes questions on the effects of computers on personalized medicine. Early evidence suggested that computers increased the length of consultations.[4] Patients had concerns regarding the confidentiality of records.[5] Critics claimed that all eyes would be on the screen.

Video recordings with a group of family doctors over seven years showed that increased computer time resulted in less eye contact, closed body posture, and less time for patient talk.[6]

Doctors may spend over 40% of the consultation looking at the screen.[7] Focus on the screen and the keyboard can decrease the amount of time spent on psychosocial issues, emotional issues, and patient centeredness.

Perhaps good communicators do not change their habits. Computer-centered doctors may formerly have focussed on paper charts. A study of "the computer-doctor-patient triad" showed how the computer could be used to create a shared reality with patients. By placing the screen at an angle so that it is visible to both the doctor and the patient, the text becomes the property of both. The position of the computer on the desk can help classify doctors as inclusive or exclusive referring to their degree of patient centeredness in the consultation.[8]

Patients can manipulate the doctor's gaze to and from the computer screen at different times during a consultation.[9] Power, authority and information flow can be shared, with patients directing the action.

High quality computer records may come at the expense of patient centeredness.[10] Some doctors may focus solely on the patient and rely on memory to enter data at the end of a visit. Others interrupt the conversation to enter notes as they go. Still others may interrupt only at the end of blocks of time, such as for recording of subjective and objective findings.

Doctors may use the computer to take a "time out" from verbal communication or as a mysterious "black-box" in solving the patient's problems.[11] Many doctors are motivated to change their doctor-computer relationship as a result of observing themselves on video.

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Training in communication skills can minimize the adverse effects of the computer in the consulting room. Doctors can maintain verbal, visual and postural communication with patients while using computers and modify the position of the computer on the desk to include patients in the consultation.[12]

Has desktop medicine replaced bedside medicine or patient-centered care?[13] When the computer is used to compute risk scores and determine drug treatment, we need to ask who makes the rules and whose interests are being served.

Computer based decision-making tools add time to the consultation.[14] For example, paper-based guidelines for anticoagulation therapy take 21 minutes to complete compared to a computerized guideline tool, which takes 44 minutes. These figures are unworkable in the current reality in general practice.

What can be done? Teachers of medicine need to inform their students of the benefits and harms of computer use in the consultation. Administrators need to listen to doctors and patients to determine their information technology needs. Systems must be rapid and transparent to allow doctors to get on with care. Some clinical software used in Portugal does not allow the opening of multiple windows for data entry during the consultation. Family doctors still have to fight for the software they need to allow them to do their job well. We hope that our readers will pick up the challenge and continue to explore this fascinating area for the benefit of their colleagues and their patients.

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## CONFLICT OF INTEREST

The author has no conflict of interest in the publication of this editorial.


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