Patients' perceptions of general practitioners using computers during the patient-doctor consultation

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Abstract

In this study 85 adult patients attending a Sydney general practice were asked for their views on computer-assisted consultations; 77 (91%) agreed to participate. In general, patients agreed they could still talk easily with their doctor, and felt listened to, while the doctor used the computer (87% & 75% respectively). More than half the patients felt the computer contributed to better treatment, although a quarter believed consultations were prolonged. About half the patients agreed that the doctor did not often explain the role of the computer. Given the national plans for increasing computerisation of health records (Health*Connect*), this research suggests that more attention should be given to involving patients in e-health developments.

Keywords: *Computer usage; general practice; general practitioners; patient satisfaction*

Introduction

The use of information technology in the Australian general practice setting is increasing. In 2001, computers were present in 86% of Australian general practices (Western et al. 2003). Most general practices use computers for administrative purposes, but increasingly computers are being used for the clinical management of patients, using the electronic health record (EHR) to record patient data and to issue prescriptions (Health*Connect* 2002).

The EHR is proven to have advantages over the paper record, in that its use enables improved information flow, improved communication between health practitioners across different health care settings, easier access to medical files, improved issuing of prescriptions, and decision support (Health*Connect* 2002). EHRs also require little storage space and thus have the potential for cost saving. The Australian Government has recognised these advantages, and, through the Department of Health and Ageing, provides funds to the General Practice Computing Group (GPCG) which focuses on effective use of computerised information systems by general practitioners (GPs) (General Practice Computing Group 2004). The GPCG functions under the auspices of the Royal Australian College of General Practitioners.

Views of patients on the use of computers in primary care have been well researched overseas (Brownbridge, Herzmark & Wall 1985; Rethans et al. 1988; Ridsdale & Hudd 1994; Ornstein & Bearden 1994; Als 1997; Richards et al. 1998; Mitchell & Sullivan 2001; Garrison, Bernard & Rassmussen 2002; Weaver 2003; Chan & McGlade 2003) but there are only two previous Australian studies (Bomba & de Silva 2001; Bomba & Land 2003). In the two Australian studies, patients were asked about their theoretical views rather than about their actual experiences with GPs using computers during the consultation. The paucity of Australian data prompted the present study, the research questions for which were:

- What do patients consider is the effect of GPs' use of computers for clinical purposes during the consultation on doctor-patient communication?
- What do patients consider is the effect of GPs' use of computers for clinical purposes during the consultation on the quality of health care delivered?
- Do patients consider that the use of computers by GPs during the consultation benefits and facilitates the consultation process?

Methods

Study population and site

The survey sample was drawn from patients who attended a general practice located in metropolitan Sydney. The EHR system, Medical Director (Medical Director 2003), was introduced into the practice in 1999. Medical Director is an Australian-produced computer program for prescription writing, medication management and patient management.

The study was conducted on site during 2 days per week over a 4-week period in 2003. Patients were approached about participating in the study when they presented to the reception desk to see the GP. Patients were eligible if fluent in English, were aged at least 16 years, and had previously attended the practice. Seventy seven of the 85 eligible patients agreed to participate, giving a response rate of 91%. The practice was run by two GPs, one male and one female, both aged 41 years, and with 13 and 10 years general practice experience respectively.

Study design and procedure

The study was a descriptive cross-sectional survey, and used a self-administered, structured, 5-minute questionnaire to collect data. Patients who agreed to participate were initially given a letter which explained the study and emphasised confidentiality of their identity and that of the practice. They completed the questionnaire while waiting to see the doctor. In the questionnaire they were asked to indicate on a 5-point Likert scale (from Strongly Agree, Agree, Unsure, Disagree, and Strongly Disagree) their level of agreement with a number of given statements related to the impact of GPs' use of computers on doctor-patient communication and quality of care, and the benefits of computer use during consultation.

Data from the questionnaire were entered onto SPSS (SPSS 2003) and are described in the paper in terms of frequencies or percentages.

Table 1: Respondents' views the impact on computer use by GPs during the consultation on doctor-patient communication

Statement	Strongly Agree n (%*)	Agree n (%)	Unsure n (%)	Disagree n (%)	Strongly Disagree n (%)
I can talk easily with the doctor whilst he/she uses the computer	15 (19%)	52 (68%)	6 (8%)	4 (5%)	0 (0%)
I feel the doctor is listening to me whilst he/she uses the computer	15 (19%)	43 (56%)	14 (18%)	1 (1%)	4 (5%)
I feel the doctor is distracted whilst he/she uses the computer	4 (5%)	17 (22%)	19 (25%)	29 (38%)	8 (10%)
The doctor looks at the computer screen more than at me	2 (3%)	9 (12%)	10 (13%)	41 (53%)	15 (19%)
The doctor often explains the role of the computer to me	2 (2%)	20 (26%)	16 (21%)	29 (38%)	10 (13%)
The introduction of the computer has affected my relationship with the doctor	2 (3%)	5 (6%)	15 (19%)	30 (39%)	25 (32%)

*Percentages may not always equal 100 because of rounding.

Table 2: Respondents' views on the impact of computer use by GPs on quality of care

Statement	Strongly Agree n (%*)	Agree n (%)	Unsure n (%)	Disagree n (%)	Strongly Disagree n (%)
I am receiving a better standard of treatment	9 (12%)	39 (51%)	15 (19%)	11 (14%)	3 (4%)
My satisfaction level with my consultation has improved	5 (6%)	33 (43%)	28 (36%)	11 (14%)	0 (0%)
The consultation is more drawn out	4 (5%)	16 (21%)	26 (34%)	28 (36%)	3 (4%)

*Percentages may not always equal 100 because of rounding.

Ethics approval was granted by the Human Research Ethics Committee of The University of Sydney.

Results

Of the 77 respondents: 37 (48%) were male, 17 (22%) were aged 16-24 years, 34 (44%) were aged 25-44, 15 (19%) were aged 45-54, and 11 (14%) were aged 55 years or more. Sixteen respondents (21%) had been attending the practice for under 4 years, eight (10%) had been attending from 4-5 years, and 53 (69%) for over 5 years. Seventy respondents (91%) indicated they could use a computer; 61 respondents (79% of total) used a computer at home and 33 (43% of total) at work. Average to excellent computer skills were claimed by 57 (74% of total). Nearly all respondents (91%) rated their doctor's computer skills as good to excellent; no patient considered their doctor had poor computer skills.

Impact of computer use by GPs on doctor-patient communication

Table 1 shows that at least three quarters of respondents felt they had the doctor's attention during computer use, with no interruption to conversation flow. Around 25% felt the doctor was distracted by the computer (25% were uncertain), and half thought the doctor tended not to explain the computer's role. Over two thirds of respondents considered their relationship with their doctor was unaffected by computer use.

Impact of computer use by GPs on quality of care

Table 2 shows that nearly two thirds of respondents considered they received a better standard of care when the doctor used a computer, half were happier with their consultation, and a quarter felt the consultation was prolonged by computer use.

Impact of computer use by GPs on the consultation process

Table 3 shows that upwards of 80% of respondents felt that using a computer facilitated the doctor's access to their medical records and test results, and to cross-referencing tools, and helped in issuing prescriptions.

Discussion

The group of patients surveyed in this study tended to have positive attitudes towards the use of computers by their GP during consultation. Most patients felt that doctor-patient communication and the doctor-patient relationship were maintained, and that computer use assisted the doctor in managing their care. A modest

Table 3: Respondents' views on whether computer use by GPs benefits and facilitates the consultation process

Statement	Strongly Agree n (%*)	Agree n (%)	Unsure n (%)	Disagree n (%)	Strongly Disagree n (%)
The doctor can access my medical files more quickly	30 (39%)	38 (50%)	7 (9%)	1 (1%)	1 (1%)
The doctor can access test results more easily	23 (30%)	39 (50%)	14 (19%)	1 (1%)	0 (0%)
The issuing of prescriptions is improved	29 (38%)	39 (50%)	8 (10%)	1 (1%)	0 (0%)
The doctor has ready access to useful cross-referencing tools for up-to-date medications	29 (38%)	39 (50%)	9 (12%)	0 (0%)	0 (0%)
Access to information regarding patient education is easier	18 (23%)	28 (36%)	29 (38%)	2 (3%)	0 (0%)
The doctor's job is easier	15 (19%)	37 (48%)	20 (26%)	5 (7%)	0 (0%)

*Percentages may not always equal 100 because of rounding.

majority of patients (63%) agreed that computer use contributed to quality of care. However, only a small number (28%) felt their doctor often explained the computer's role. Nearly half (49%) considered computer use contributed to their satisfaction with the consultation. With regard to negative aspects of computer use, one quarter of patients felt their doctor was distracted by the computer and one quarter felt that computer use prolonged the consultation.

Our finding that most patients felt computer use by the doctor during consultation did not adversely affect doctor-patient communication is in keeping with several previous reports (Ornstein & Bearden 1994; Richards et al. 1998; Bomba & de Silva 2001; Garrison, Bernard & Rassmussen 2002; Weaver 2003; Chan & McGlade 2003; Bomba & Land 2003) indicating that doctors' fears about computer use disrupting the doctor-patient relationship (Mitchell & Sullivan 2001) are probably unjustified. However, our observation that 27% of respondents thought the computer distracted their doctor is in some contrast with a previous report in which only 3% of patients felt the doctor was distracted (Weaver 2003). The tendency for doctors not to inform their patients about the computer's role, as found in the present study, is an aspect of concern that patients in a previous study viewed as a major problem (Als 1997).

Our observation that most patients felt computer use had a positive effect on the standard of care has been found previously (Rethans et al. 1988; Ornstein & Bearden 1994; Richards et al. 1998; Weaver 2003; Chan & McGlade 2003; Bomba & Land 2003), and previous reports that computer use was not considered by patients to adversely affect standard of care or their satisfaction with the consultation (Brownbridge, Herzmark & Wall 1985; Garrison, Bernard & Rassmussen 2002) implies patients were as satisfied when the consultation was computerised as they had been formerly. Similarly, patients in our study who felt certain that computer use did not improve the quality of care they received or improve their satisfaction with the consultation may have been no less satisfied than they were before computerisation. Although only a minority (40%) of respondents felt certain that computerisation did not prolong the consultation, a far smaller minority (26%) felt sure that computer use did so. Rethans et al. (1988) also found that only a minority considered consultation length increased. Among previous studies that claimed computerisation prolonged the consultation, the increase was, on average, only by about 1-2 minutes (Mitchell & Sullivan 2001).

The markedly positive views of our respondents on the advantages of computer use during consultation (improved issuing of prescriptions, and quicker and easier access to patients' files, test results, medication information, patient education) suggest that such features of computer use are considered by patients to be of notable benefit both to themselves and the doctor. Such views appear to be fairly universal, having been found in many studies. For example, patients previously have agreed that computer use by the doctor leads to: a picture of medical history being obtained more quickly (Brownbridge, Herzmark & Wall 1985); improved issuing of prescriptions (Rethans et al. 1988; Bomba & Land 2003); easy access to medical files (Ridsdale & Hudd 1994), and easy access to medical or medication information (Ridsdale & Hudd 1994; Ornstein & Bearden 1994; Bomba & Land 2003).

A high opinion of GPs' computer skills as expressed by our respondents was also observed in the most recent previous Australian study (Bomba & Land 2003). However, in relation to computer literacy among the patients themselves, far fewer respondents in the previous Australian work than in the present claimed medium (average) or extensive (excellent) computer knowledge (60% as against 74%).

Study limitations

The data for our study were supplied by a modestly sized sample of patients from one general practice. While the gender distribution of the survey sample (48% male, 52% female) was similar to that of Aus-

tralia-wide general practice populations in 2003-04 (42.6% male and 57.4% female) (Britt et al. 2004), the survey's patients as a group tended to be younger (66% aged 16-44) than found across Australian general practices in 2003-04 (38.5% aged 15-44) (Britt et al. 2004). Computer usage amongst our respondents was also different from the Australian average, being higher than the national figure; the September 2003 report of the Australian Bureau of Statistics recorded that in 2003, 60% of Australian adults were online at home and 32% were online at work (Caslon Analytics n.d.). In comparison, 79% of our respondents used a computer at home and 43% at work. It could be claimed that younger than average age and greater familiarity than average with computers could have influenced our patients' acceptance of computer use by their GP, and that these factors influence the generalisability of our study to Australian general practice populations. However, our respondents had similar views, in the areas where comparisons could be made, to those of the most recent Australian study (Bomba & Land 2003) which may be claimed to be representative on a number of counts, namely, the previous study included a large number of patients drawn from several general practices, and the respondents tended to be close to national averages in respect of age (47% were aged <18-45) and computer usage (62% used a computer at home or work).

Conclusion

In conclusion, this study supports the evidence provided by previous research in Australia and elsewhere that patients tend to consider computer use by their GP during consultation does not have an adverse effect on their visit to their doctor. It appears that patients' experience with computer use in Australian general practice is, on the whole, positive across a wide range of aspects, such as those relating to the doctor's approach to their patients (including communication and other features of the doctor-patient relationship) and the quality of care given. Nevertheless, it cannot be ignored that in our study there were a few aspects of the GP's computer use that patients, on the basis of experience, did not, overall, view positively. Thus, while the introduction of the computer into the GP's consulting room may be a positive step, the GP needs to recognise and act on the aspects of their computer use which patients tend to find unsatisfactory. Given the national plans for increasing computerisation of health records, this research suggests that more attention should be given to involving patients in e-health developments.

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