

Would community pharmacists welcome electronic access to patients' clinical data?

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Abstract

Aim

To ascertain community pharmacists' perceptions on issues arising from possible access to patients' biochemical and clinical data.

Design

Pre-piloted postal questionnaire.

Subjects and setting

Pharmacists at a random sample of 1,200 community pharmacies.

Results

549 questionnaires were analysed (a response rate of 46.3%). Less than a quarter of respondents expressed satisfaction with the current level of information available to them. 64% thought that pharmacists should have access to patient data although 25% were unsure. 14% of respondents indicated that training in the interpretation and application of patients' biochemical and clinical data would be required and 11% mentioned time constraints. 73% of respondents expected that the number of clinical interventions made would increase, and 83.7% thought that access to patient data would be beneficial to improving patient care.

Conclusions

Most community pharmacists would welcome access to patient data and believe it would confer many benefits. There were issues about training, time, liability and relationships with GPs that will need to be addressed

It has been stated that the future of community pharmacy lies in medicines management and it is proposed that by 2004 every primary care group will have systems in place to help patients get more from their medicines.¹ The contribution made by pharmacists to medicines management in the hospital sector is well established and has been shown to be of paramount importance² but the provision of similar clinical services in community pharmacy are not so well developed. Effective delivery of health care services depends on communication among the different groups of individuals in the NHS and access to appropriate patient information is essential to undertake medication review.³ It has also been shown that access to medical records is necessary to identify and resolve pharmaceutical care issues.⁴ Currently there is a paucity of patient details available to the community pharmacist. With the development of information technology the electronic transfer of information has become commonplace and it is proposed that the new technology will be used in the NHS with community pharmacies being linked to the NHSnet.^{5,6} For community pharmacists to undertake medicines management effectively, access to certain patient details will be necessary and a change in work practice will be inevitable.

It is assumed that this access will be via the NHSnet. However, for these initiatives to be successful, it is important that community pharmacists are comfortable with handling an increased level of patient information and view the developments positively. Little work has been published on pharmacists' views on this, although a recent study⁷ investigated the views of patients, general practitioners and pharmacists in Scotland on electronic transfer of prescription-related information.

To ensure optimum benefit from any new system it is important to ascertain the views of the main users. In this study community pharmacists across the UK were contacted and their opinions on access to patients' biochemical and clinical data were sought. For the purpose of this research electronic access was presumed.

Method

A postal questionnaire was developed to investigate the views and perceptions of community pharmacists on the benefits or otherwise of possible access to patients' biochemical and clinical data. The questionnaire

was checked for face validity with 18 final-year pharmacy undergraduates and piloted with a sample of 18 pharmacists with community experience. Minor changes were made following the pilot.

The questionnaire comprised closed questions to obtain factual and attitudinal data using tick boxes and five-point Likert scales. Respondents were requested to give reasons for specific answers, where appropriate, and invited to express further comments on the research area.

A random sample of 1,200 community pharmacies was obtained from the Register of Premises 2000 using a random number generator. Questionnaires were addressed to "The Pharmacist" at the selected address and sent with a covering explanatory letter assuring anonymity and a reply-paid envelope. A single reminder was sent to non-responding pharmacies. Data were collected over a three-month period from September to December 2001. Analysis was carried out using the Statistical Package for the Social Sciences (SPSS) version 10 for Windows and qualitative data were analysed thematically. Chi-squared tests were used to determine whether differences between groups were significant. A *P* value of <0.05 was considered statistically significant.

Results

Of the 1,200 questionnaires sent out, 15 were returned as undeliverable, leaving 1,185 possible responses. Five hundred and forty-nine replies suitable for analysis were received, giving a response rate of 46.3 per cent. Since some respondents did not complete all questions, "n" values may vary between tables.

Respondents were asked to express their level of satisfaction with the patient information currently available to them when dealing with prescriptions. A five-point Likert scale was used where 1 was "extremely dissatisfied" and 5 was "totally satisfied". Five hundred and forty-three pharmacists responded, of whom 35 (6.4 per cent) expressed extreme dissatisfaction with a further 156 (28.7 per cent) being "dissatisfied". Less than a quarter of respondents expressed satisfaction, with 119 (21.9 per cent) being "satisfied" and 15 (2.8 per cent) being "totally satisfied". Tables 1 and 2, with categories 4 and 5 combined and categories 1 and 2 combined, show the variation of this response with years of experience and position held. No statistically significant differences were found.

In response to the question "Do you think

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that community pharmacists should have access to patients' biochemical and clinical data?", 351 (64.1 per cent) answered "yes", 61 (11.1 per cent) answered "no" and 136 (24.8 per cent) were unsure (n=548). A breakdown of the responses to this question by years of experience, the position held in the pharmacy and type of pharmacy are shown in Tables 3, 4 and 5. The only statistically significant difference found was with years of experience ($\chi^2=27.99$, 6df, $P<0.05$). On further analysis it was identified that pharmacists who had been practising for 21 or more years were more likely to disagree that community pharmacists should have access to patients' biochemical and clinical data than their colleagues with fewer years of practice ($\chi^2=23.53$, 4df, $P<0.05$).

Of those who answered "unsure", 108 (79.4 per cent) gave reasons. The most frequently voiced concern (38, 35.2 per cent) related to pharmacists' ability to interpret biochemical and clinical data and the need for additional training was highlighted. A second main theme of time constraints was noted by 24 pharmacists (22.2 per cent). Other aspects mentioned included the potential adverse effect on relationships with GPs, professional liability including data protection and confidentiality and concerns that currently community pharmacists have no authority to initiate medication changes. Comments included:

- "We don't have the authority to do anything with this information"
- "It is of little use if we do not have the authority to amend medications regimes or better access to prescriber"
- "There is a reason for access if the pharmacist can have any input into diagnosis or prescribing or monitoring"

The perceptions of pharmacists as to how beneficial access to biochemical and clinical data would be, in respect of five different topics, are shown in Table 6. In four out of the five cases a large majority of pharmacists gave responses of "4" or "5" indicating they considered access to biochemical and clinical data would be beneficial. When response categories "4" and "5" are combined, 453 respondents (83.7 per cent) considered access to data would be of benefit in improving patient care and 442 (81.5 per cent) indicated that it would be of benefit in extending the pharmacist's role. Similarly, 380 (70.2 per cent) considered pharmacist/GP relations would be enhanced and 349 (64.6 per cent) thought that the level of appropriate over-the-counter sales would increase. Some 266 (49.6 per cent) considered there could be a beneficial effect on the drugs bill.

If community pharmacists had access to patients' biochemical and clinical data, a large majority of 537 respondents (393, 73.2 per cent) expected that the number of clinical interventions they made would increase, 47 (8.8 per cent) expected no change, 22 (4.1 per cent) expected a decrease and 75 (14.0 per cent) were unsure. Some 284 pharmacists

(52.9 per cent) indicated that when consulting GPs about clinical interventions they found them to be approachable or very approachable. Of 538 pharmacists (84.6 per cent) believed that the use of the above data should be reflected in their remuneration, concerns about professional liability if data were available but not acted upon were expressed by 396 respondents (73.6 per cent).

Additional comments were made by 158 pharmacists and examples are shown in the Panel on p97. Most comments were on the same themes as previously identified with 54 comments (34.2 per cent) relating to training and 43 (27.2 per cent) highlighting time constraints; 52 respondents (9.5 per cent) used this section of the questionnaire to reiterate their belief that improved access to patient information would bring about major patient benefit. The two main themes of training and time constraints were voiced by respondents in different sections of the questionnaire. A total of 75 respondents (13.7 per cent) expressed concerns about either their own ability or that of their fellow professionals to use the data and indicated training would be required, and 62 (11.3 per cent) mentioned the issue of time constraints.

Discussion

In this study the opinions of community pharmacists across the UK on access to patients' biochemical and clinical data have been obtained. As this study used years of experience rather than age, a direct comparison cannot be made with Royal Pharmaceutical Society statistics.⁸ However, although the random sample was not stratified and the response rate was slightly less than 50 per cent, the opinions expressed may be considered generalisable as the types of pharmacy and positions held by the respondents were representative of the profession.⁸

Pharmacists' views on access to biochemical and clinical data

Only a quarter of respondents expressed satisfaction with the amount of patient information currently available to them. When analysed by years of experience no significant differences were found. However a trend can be seen with dissatisfaction being highest in those with fewer years of practice. This trend correlates with the findings of a workforce survey which indicated that "younger community pharmacists are ready for a greater professional challenge and for new ways of working with other health care professionals".⁹ In this

Table 1: Satisfaction with information available compared against years in practice (n=543)

Years practising	*Satisfaction level		
	1+2 No (%)	3 No (%)	4+5 No (%)
Less than 5 years (n=111)	42 (37.8)	45 (40.5)	24 (21.6)
5-10 years (n=97)	42 (43.3)	36 (37.1)	19 (19.6)
11-20 years (n=134)	46 (34.3)	58 (43.3)	30 (22.4)
21-30 years (n=138)	44 (31.9)	50 (36.2)	44 (31.0)
More than 30 years (n=63)	17 (27.0)	29 (46.0)	17 (27.0)

*Responses on Likert scale, where 1=extremely dissatisfied and 5=totally satisfied

Table 2: Satisfaction with information available compared against position of pharmacist (n=543)

Position	*Satisfaction level		
	1+2 No (%)	3 No (%)	4+5 No (%)
Proprietor/owner (n=162)	54 (33.3)	61 (37.7)	47 (29.0)
Manager (n=236)	82 (34.7)	96 (40.8)	58 (24.6)
Full-time (n=39)	11 (28.2)	18 (46.2)	10 (25.6)
Part-time (n=28)	12 (42.9)	14 (50.0)	2 (7.1)
Locum (n=70)	30 (42.9)	26 (37.1)	14 (20.0)
Other (n=8)	2 (25.0)	3 (37.5)	3 (37.5)

*Responses on Likert scale, where 1=extremely dissatisfied and 5=totally satisfied

workforce survey there was a similar trend in degree of dissatisfaction by position held in community pharmacy, although a direct comparison cannot be made because of differences in classification. Sixty-four per cent of respondents agreed that community pharmacists should have access to patients' biochemical and clinical data. This compares with a study in Scotland where possible access to information on blood pressure, blood tests and urine tests was considered useful by 77, 69 and 59 per cent of pharmacists, respectively.⁷ In the current study, when examined by years of practice, other than those with over 30 years, there is a consistency in the proportion of pharmacists wishing access to biochemical and clinical data (range 62.7-68.8 per cent). Most respondents considered that access to such data would be beneficial or very beneficial on a variety of issues. Again, most pharmacists considered that patient care would be improved as would the appropriateness of over-the-counter sales. This compares with a study¹⁰ which identified that the major influence on pharmacists' work practice is the welfare of their patients.

Pharmacists' concerns Fourteen per cent of respondents made unsolicited comments that additional training would need to be undertaken. Some pharmacists with recent clinical experience will feel confident in handling biochemical and clinical data and not require further training. However, most community pharmacists will not be in this position. The opinions and reactions of GPs to pharmacists accessing such data are important, and GP support would be vital for the success of such an initiative. In a previous study,⁷ GPs ex-

Table 3: Answers to question, “Should pharmacists have access to patients’ biochemical and clinical data?”, compared against years of experience (n=548)

Response	Years of experience				
	*<5 (n=112) No (%)	*5–10 (n=98) No (%)	11–20 (n=134) No (%)	21–30 (n=140) No (%)	>30 (n=64) No (%)
Yes	77 (68.8)	67 (68.4)	84 (62.7)	91 (65.0)	32 (50.0)
No	7 (6.2)	3 (3.1)	12 (9.0)	24 (17.1)	15 (23.4)
Unsure	28 (25.0)	28 (28.6)	38 (28.4)	25 (17.9)	17 (26.6)

*Categories were combined for the purposes of statistical tests

Table 4: Answers to question, “Should pharmacists have access to patients’ biochemical and clinical data?”, compared against position in pharmacy (n=548)

Response	Years of experience					
	*Owner/proprietor (n=163) No (%)	*Manager (n=240) No (%)	*Full-time (n=39) No (%)	Part-time (n=28) No (%)	Locum (n=70) No (%)	Other (n=8) No (%)
Yes	105 (64.4)	159 (66.3)	20 (51.3)	17 (60.7)	46 (65.7)	4 (50.0)
No	24 (14.7)	21 (8.8)	6 (15.4)	2 (7.1)	7 (10.0)	1 (12.5)
Unsure	34 (20.9)	60 (25.0)	13 (33.3)	9 (32.1)	17 (24.3)	3 (27.5)

*For the purposes of statistical tests only the first three categories were examined

Table 5: Answers to question, “Should pharmacists have access to patients’ biochemical and clinical data?”, compared against type of pharmacy (n=547)

Type of pharmacy	Answer to question		
	“No” (n=61) No (%)	“Yes” (n=135) No (%)	“Unsure” (n=351) No (%)
Independent (n=200)	28 (14.0)	49 (24.5)	123 (61.5)
National multiple (n=253)	21 (8.3)	59 (23.3)	173 (68.4)
Local multiple (n=90)	12 (13.3)	26 (28.9)	52 (57.8)
*Other (n=4)	0	1 (25.0)	3 (75.0)

*For the purposes of statistical tests, the “Other” category was omitted

pressed concerns relating to pharmacists’ ability to use biochemical and clinical data. This concern by both professions indicates an awareness that before community pharmacists can play a full part in the provision of medicines management, additional educational requirements will have to be met.

Time constraints were raised as a concern in this study and are frequently voiced by community pharmacists as a barrier to developing their role. This is an important issue. In a recent study,¹¹ interventions which provided only minimal assistance in the area of medicines management, eg, prescription length optimisation, were investigated and the additional work involved for community pharmacists identified. It was acknowledged that in the future an even greater contribution will be required from community pharmacists if they are to have a significant input in the provision of medicines management. Clearly the issue of time constraints will have to be resolved.

Since most pharmacists believed that access to biochemical and clinical data would increase their work load, it is not surprising that they thought this should be reflected in their remuneration. The remuneration pack-

age for community pharmacists is an area of constant and continuing debate. It could be argued that with a major change in the work practices of the community pharmacist and a more enhanced role in the primary health care team, a new model for remuneration should be considered.

An important issue expressed by those unsure of whether community pharmacists should have access to patients’ biochemical and clinical data was that, despite the acknowledged benefits to patient care, currently they have no authority to initiate medication or make alterations to existing therapy. This lack of authority renders access to biochemical and clinical data of limited value.

Pharmacists’ perceptions of the effects of access to patients’ biochemical and clinical data

Many community pharmacists are frustrated at the under-use of their professional knowledge and wish for

greater respect and recognition from doctors.⁹ The results of the present study reinforce this with over 80 per cent of respondents considering that access to patient data would extend their role and 70 per cent believing that it would enable their relationship with GPs to be enhanced. Although almost three-quarters of the respondents thought that the number of clinical interventions would increase with access to biochemical and clinical data, only about half of them considered their local GPs approachable or very approachable. For medicines management in primary care to be effective, good communication between community pharmacists and GPs is essential. The lack of certainty of respondents as to whether access to patient data would reduce the drugs bill may be evidence that pharmacists are aware that improving patient care may have no effect on the drugs bill or could lead to an increase, eg, the same medication producing better therapeutic outcomes or the recommendation of more expensive medication in line with the latest evidence-based practice.¹² Further investigation of this aspect is required.

Most respondents wanted access to patient data but were aware that increased access to information brought increased responsibilities. The concerns noted by respondents about being held accountable if they did not access available data or, if they did access data, did not act upon it appropriately, are important. In today’s litigious society professional liability is a major concern. All practising pharmacists must carry professional indemnity insurance¹³ and insurance companies may require evidence of competence in the interpretation and application of biochemical and clinical data. Similar concerns regarding data protection and confidentiality were raised by GPs, patients and pharmacists in a previous study.⁷ The Code of Ethics and Standards with which pharmacists must comply already addresses these issues.¹³

Workforce implications for community pharmacy

At a time when employers have reported difficulties in recruitment to posts in community pharmacy¹⁴ serious consideration should be given to initiatives which not only bring benefits to patients but improve the retention of pharmacists in community pharmacy positions.² The degree of

Table 6: Answers to question, “How beneficial do you think access to patients’ biochemical and clinical data would be to the following?”

Topic	*How beneficial?				
	1 No (%)	2 No (%)	3 No (%)	4 No (%)	5 No (%)
Extending pharmacists’ role (n=542)	11 (2.0)	20 (3.7)	69 (12.7)	182 (33.6)	260 (48.0)
Reducing the drugs bill (n=536)	22 (4.1)	76 (14.2)	172 (32.1)	143 (26.7)	123 (22.9)
Improving patient care (n=541)	10 (1.8)	14 (2.6)	64 (11.8)	204 (37.7)	249 (46.0)
Enhancing pharmacist/GP relations (n=541)	18 (3.3)	30 (5.5)	113 (20.9)	192 (35.5)	188 (34.8)
Appropriateness of over-the-counter medicines sales (n=540)	16 (3.0)	47 (8.7)	128 (23.7)	166 (30.7)	183 (33.9)

*Responses on Likert scale, where 1=not beneficial and 5=very beneficial

Pharmacists' comments

Educational and training aspects

- "It is so long since I was at college, the thought of having to interpret biochemical/clinical data frightens me. For me to get involved with this I would need serious training to a level of suitable confidence."
- "Before having access to patients' clinical/biochemical data, I certainly feel we need further training to be able to usefully utilise the information. By 'we', I mean every pharmacist should undertake a relevant course."
- "Having been a hospital pharmacist for 20 years it was an essential part of my job to be aware of clinical data and I am confident in interpreting and using it. However, I do not think community pharmacists are as 'clued up' in this area and a training and/or refresher study pack would be helpful on how to assess the data provided."

Time constraints

- "I think professionally it would be great but I have reservations about our lack of time in the dispensary."
- "Where is the time to increase this type of clinical intervention? Especially if [it is a] heavy dispensing practice?"
- "Unfortunately, in today's situation of remuneration and pharmacist obligatory checking of prescriptions, time is not available to search through patients' records and I don't think, until situations change, it would be fair to expect us to."

Patient benefit

- "By us having access to this sort of information the only outcome would be better patient care with adequate advice and a more satisfying career for pharmacists, since the knowledge learnt in university can be applied fully — but the issue of finding enough time for good advice/intervention is a problem that needs to be given a lot of thought."
- "I would welcome [access to patients' clinical/biochemical data] myself as another tool to ensure patient welfare."

Legal issues

- "Lack of access to info means we effectively dispense large numbers of prescriptions blind so the potential for [adverse drugs reactions] or inappropriate prescribing is effectively beyond our control. Increased access will lead to increased liability if a problem occurs but would improve our service to patients."
- "If we did have access to patients' biochemical and clinical data we may feel compelled to act upon them and, if we did and the GP ignored any recommendations, where would that place us in terms of liability? This may make some community pharmacists very reluctant to become involved in accessing patient notes. I think there would have to be a clearly defined protocol to follow, maybe endorsed by the Royal Pharmaceutical Society."
- "Could be a legal minefield"

Remuneration issues

- "Access to information is very useful. However, it will definitely increase the workload for pharmacists who are already overstretched, and pharmacists will expect to be remunerated for the extra work. In the current state of the NHS that doesn't look possible."
- "The whole payment structure must be changed, ie, not just an extra dispensing fee for assessing clinical data."

Enhanced professional role

- "The pharmacist is a health care professional on the same level as GPs or nurses. Health care professionals are supposed to co-operate. Access to medical information should be available to every member of the team. On what ground is access denied or partially restricted to pharmacists?"
- "Utilisation of this information through community pharmacies would increase the importance of our role in primary care provision. At the moment we are undervalued by government, public and health care professionals. A lot of lip service is paid. The reliance on the role of dispensing is holding us back."

satisfaction felt by the respondents in this study with regard to aspects of work practice compares with previous work⁹ that investigated morale and motivation within the pharmacy workforce. Community pharmacists were found to be less satisfied with their current role than pharmacists in other branches of the profession and thought their current professional role was not sufficiently challenging. Similarly these opinions were more prevalent in younger pharmacists or those with fewer years in the profession. Job satisfaction for pharmacists appears to be strongly linked to the ability to practise clinically. Higher levels of job satisfaction have been identified in hospital pharmacists and those engaged working in GP practices, primary care groups and primary care trusts^{14,15} where they spend more time on clinical activities. These results indicate that community pharmacists feel constrained by the current lack of appropriate patient data and provide further evidence that they wish to be more clinically involved.

It has been stated that the future of community pharmacy lies in medicines management¹ and that access to patients' biochemical and clinical data is required to provide an optimal service.⁴ This research has demonstrated that until such time as clinical teams exist in primary care with pharmacists as independent prescribers and the issues of time, professional liability and remuneration are resolved, such access will not produce the benefits envisaged.

Conclusion

This study has investigated the views of community pharmacists about access to patients' biochemical and clinical data and has shown that most community pharmacists would welcome access and believe it would confer many benefits. However there are issues about training, time, liability and relationships with GPs that will have to be addressed as access to data is essential for the development of optimum medicines management in community pharmacy.

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