General practitioner perceptions of clinical medication reviews undertaken by community pharmacists

Linda Bryant PhD; **Gregor Coster** PhD; **Ross McCormick** PhD

Department of General Practice and Primary Health Care, The University of Auckland, Auckland, New Zealand

ABSTRACT

INTRODUCTION: Delivery of current health care services focuses on interdisciplinary teams and greater involvement of health care providers such as nurses and pharmacists. This requires a change in role perception and acceptance, usually with some resistance to changes. There are few studies investigating the perceptions of general practitioners (GPs) towards community pharmacists increasing their participation in roles such as clinical medication reviews. There is an expectation that these roles may be perceived as crossing a clinical boundary between the work of the GP and that of a pharmacist.

METHODS: Thirty-eight GPs who participated in the General Practitioner–Pharmacists Collaboration (GPPC) study in New Zealand were interviewed at the study conclusion. The GPPC study investigated outcomes of a community pharmacist undertaking a clinical medication review in collaboration with a GP, and potential barriers. The GPs were exposed to one of 20 study pharmacists. The semi-structured interviews were recorded and transcribed verbatim then analysed using a general inductive thematic approach.

FINDINGS: The GP balanced two themes, patient outcomes and resource utilisation, which determined the over-arching theme, value. This concept was a continuum, depending on the balance. Factors influencing the theme of patient outcomes included the clinical versus theoretical nature of the pharmacist recommendations. Factors influencing resource utilisation for general practice were primarily time and funding.

CONCLUSION: GPs attributed different values to community pharmacists undertaking clinical medication reviews, but this value usually balanced the quality and usefulness of the pharmacist's recommendations with the efficiency of the system in terms of workload and funding.

KEYWORDS: Family physicians; community pharmacy services; drug utilization review; primary healthcare; health plan implementation; qualitative research; interprofessional relations

Introduction

Drug-related morbidity and mortality is a costly problem which cannot be resolved by one health care profession in isolation. The numerous steps involved in the generation and resolution of a drug therapy problem requires coordination and collaboration between professions, usually within an interdisciplinary team. This role expansion for health professionals such as pharmacists and nurses has not necessarily been a comfortable change for all the health care workers 'at the coalface'.

Norris[1] reviewed the sociological development of community pharmacy in New Zealand (NZ) from 1930 to 1990, particularly focussing on the negotiation and renegotiation of occupational control, and the relationship between general practitioners (GPs) and pharmacists. Provision of health care was a division of labour usually decided by the medical practitioner. Nurses were considered subordinate to medical practitioners and occupations such as optometry had limited practice opportunities or required a

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CORRESPONDENCE TO:
Linda Bryant
Department of General Practice and Primary Health Care, The University of Auckland, PB 92019 Auckland, New Zealand
linda@cpsl.biz

referral system. Pharmacists were subordinate to medical practitioners in terms of being required to dispense prescriptions written by the medical practitioner, but generally had commercial independence and autonomy, unlike practice nurses who are seen as a core part of the health care team. The pharmacist's place in the medical model was ill-defined and marginal. Because they were associated with shopkeeping, there was a perception that pharmacists were tainted as health professionals.[1] This is a view shared by the British researchers Harding and Taylor.[2]

A small number of qualitative studies exploring general practitioners' views of community pharmacists have helped identify barriers to collaboration with community pharmacists. Early studies indicated that GPs were unaware of pharmacists' professional training and responsibilities, viewing them as players in the commercial or retail environment.[3,4] In other studies, medical practitioners, usually in a hospital setting, who worked with or more closely to pharmacists had more positive perceptions for their expanding roles.[2,5,6]

This view apparently has not changed. A 2003 British study[7] found that the image of a community pharmacist as a shopkeeper was a superordinate theme that pervaded other themes that emerged—access, hierarchy and awareness. The shopkeeper image was considered to generate conflict between health care and business, with some perverse incentives identified that might serve to increase the use of drugs. Lack of privacy in the shop was also noted. Issues of territory were raised with a view of community pharmacists as subordinate to doctors and considered to be on the periphery of the health care team. Many of the GPs saw the practice pharmacist as the preferred model because it removed the complications associated with the shopkeeper image.

Edmunds and Calnan[8] considered the medical profession's status may be under threat in the United Kingdom, particularly from other health-related occupations such as community pharmacy attempting to re-professionalise. Their study explored community pharmacists' and GPs' perceptions of an extended role for community pharmacy using repeat dispensing, extended adherence support and pharmaceutical care focussing on ischaemic heart disease provided from within a general practice, as examples of extended services. The interviewees, 26 GPs and 37 pharmacists, were selected from extended services schemes and so likely to be proactive. While the GPs had high regard for pharmacists' skills and were supportive of the repeat dispensing schemes and pharmacists helping patients' manage their medicines, they discriminated between those activities that were acceptable (delegated activities that reduced the general practitioner's workload but didn't remove control) and those that encroached on their territory. They were ambivalent about other patient-centred roles, being less keen on community pharmacists screening for medical conditions and other clinical activities such as intervening in prescribing decisions, monitoring blood pressure or sharing medical records. The pharmacists were not considered as equals.[8]

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Ambler[9] noted the new initiatives occurring in the United Kingdom that impact on pharmacist–general practitioner relationships. Two questions were discussed. The answer to, 'Can a

pharmacist currently undertake the main task of a general practitioner?' was, 'Obviously not, as diagnosis beyond minor, self-limiting conditions is not part of the pharmacists' knowledge or skills base'. However, to the question 'Can a community pharmacist work with a general practitioner to provide quality health care?' it was considered that the answer is 'yes', with the qualifier that the pharmacist is working within the general practice.

In Australia, an independent report was commissioned by the Department of Health and Ageing into the Home Medicines Review Programme (HMR), a programme similar to that involved in the GPPC study with community pharmacists undertaking patient medication reviews.[10] Most of the 27 GPs interviewed were ambivalent about the HMRs, considering them ineffective in producing substantial improvements in a patient's health. The recommendations included allowing direct referrals from the general practitioner to accredited pharmacists, without the need to go through a community pharmacy, and allowing the accredited pharmacists to claim fees directly, again without going through the community pharmacy.

When changing roles, the perceptions of the individuals involved are important because of the barriers or facilitators generated. As pharmacists move towards more involvement in clinical services, the perceptions of GPs regarding the pharmacists' shopkeeper image, the pharmacists' ability to perform clinical services and the pharmacists' role in the health care team, influences their acceptance of new pharmacist roles and the extent of collaboration that can occur.

The General Practitioner–Pharmacist Collaboration (GPPC) study was a multi-centred randomised, controlled study conducted between 2002 and 2004 comparing people older than 65 years and on five or more medicines who received a clinical medication review with similar patients who did not receive a consultation. The GPs were invited into the study by a participating pharmacist and then identified and invited eligible patients consecutively until 12 patients were enrolled. The community pharmacists had access to patient medical records, met with the patient to review their medicines either in the pharmacy or at home, and then discussed potential medication alterations with the general practitioner in a meeting that took approximately 10 minutes per patient. There were two to four patients discussed per meeting. The general practitioners were reimbursed NZ$50 from research funds for each patient they enrolled and the pharmacists NZ$160 per patient through a government contract to provide medication reviews. The aim of the GPPC study was to determine the impact of community pharmacy–based clinical medication reviews on medicines-related health outcomes, and to investigate the potential barriers to the implementation of this service.

The aim of this qualitative study is to explore the perceptions of GPs after working in this environment to determine the barriers, if any, that limit community pharmacists and GPs working together clinically. The perceptions of pharmacists are discussed in a companion paper.

WHAT GAP THIS FILLS

What we already know: Health care providers, including pharmacists, are under pressure to increase their input into direct patient care in what may be traditionally considered general practitioner roles. There is little information about how appropriate general practitioners perceive the input of community pharmacists into clinical medication reviews for patients.

What this study adds: General practitioners who had been exposed to community pharmacists undertaking clinical medication reviews for general practice patients, evaluated this service in terms of value. The value of the services was arrived at by balancing the potential for improved patient outcomes against the resources required for the service, particularly time and funding.

Methods

At the end of the GPPC study, face-to-face semi-structured interviews of GPs and pharmacists were undertaken by the pharmacist researcher. Ethical approval for the study was obtained from the regional ethics committees (ref: 99/207). All GPs who participated in the GPPC study were invited to participate in an interview. The interviews were up to 30 minutes and were audiotaped with permission from the interviewee. The primary areas discussed with the GPs were:

Table 1. Characteristics of the general practitioners interviewed.

		General practitioners %	(no.)
Age	<40 years old	39%	(14)
	40–50 years old	39%	(14)
	>50 years old	22%	(10)
		Range: 33–59 years	
Gender	Male	80%	(30)
	Female	20%	(8)
Nationality	New Zealand	71%	(27)
	Other	29% South African x6, UK x4, USA x1	(11)
Location	Town	24%	(9)
	Peripheral city	47%	(18)
	City	29%	(11)
Solo practice		21%	(8)

- Particularly useful aspects of the medication review service.
- Their existing or envisaged problems with the service.
- Practicalities such as communication issues, implementation issues and location of the service.
- The future they envisaged for clinical medication reviews by community pharmacists.

The interviews were transcribed and analysed using QSR NVivo v2.0. An analysis was undertaken initially within six months of the interviews using a thematic approach, and then re-analysed by the same researcher 18 months later to aid with consistency of interpretation. An inductive reasoning process was used, generating ideas or hypotheses.

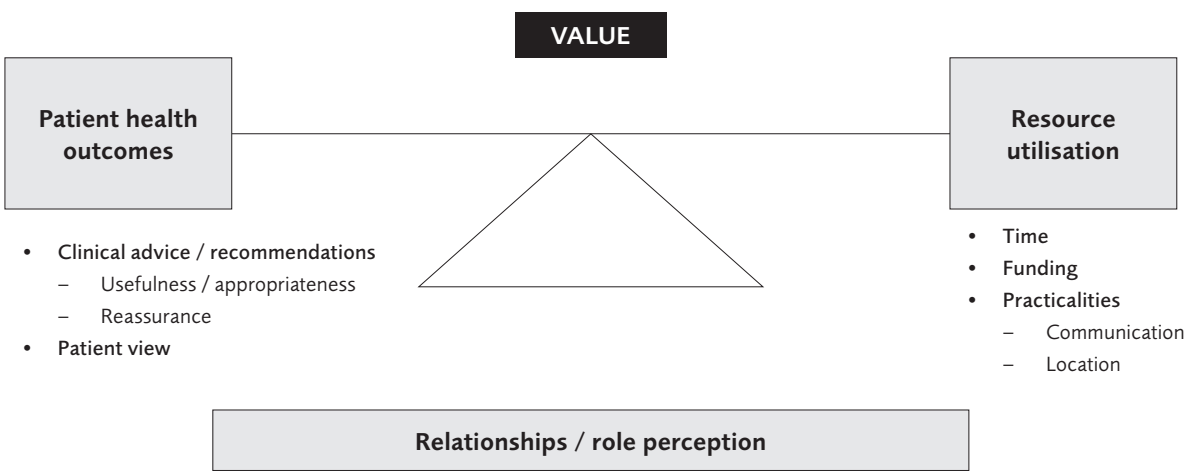
Findings

Thirty-eight of the 56 GPs who started the study were interviewed. Reasons for not being interviewed were, primarily, being on holiday at the time of the interview period or not being able to make an appointment on the day the researcher was visiting. Of those interviewed, two had been invited by a pharmacist who withdrew during the GPPC study. Overall the GPs interviewed had been exposed to one of 20 study pharmacists, from the total of 27 study pharmacists. The characteristics of the GPs are described in Table 1.

Overview

The overarching theme from the interviews was the concept of 'value', a balance of the theme of patient benefits against the theme of resources such as general practitioner time and government funding of the pharmacist required for the service. There was a continuum of how much value the GPs placed on the service, but they consistently weighed up the perceived benefits

Figure 1. Summary of the thematic analysis from the general practitioner interviews



and resources. Influencing this balance were views on relationships and territoriality. This provides a complex model that balances two separate themes with a range of perceptions to give a diverse stance on the overarching theme of 'value'. An underlying third theme related to relationships and territoriality (Figure 1). This led to a continuum between positive and negative responses.

The positive responders acknowledged the usefulness of an outside perspective on the patient's views and use of medicine, and included comments about creating an opportunity to stop or change medicines. As the continuum changed to more negative views, the value of the service was reduced because some medication problems were considered unsolvable or recommendations had already been tried, and so little changed despite the effort put in.

> I thought it was really invaluable because often, although we try, you know, sometimes you are just so busy you just don't have a chance to review one's medication and one of the problems that we have with older people is they tend to come in with complaints about certain drugs and you end up treating them with a drug, and another drug, and you end up chasing your tail; and that is where it has been really good. [GP1]

> I suspect for the amount of time and effort and possibility even money that was put into it, I am not convinced that we made a big difference. [GP3]

Of the specific aspects that the GPs found useful, information on pharmacokinetic issues such as interactions and dosing in renal impairment were appreciated and considered important. The GPs considered that, with a heavy workload, this was an area on which they often found it difficult to maintain up-to-date information. Similarly, identification of actual or potential adverse effects and issues raised about compliance were useful.

Patient health outcomes

Usefulness of pharmacists' recommendations

To help determine the value of the service, GPs considered the usefulness and appropriateness of the pharmacist recommendations. The GPs generally found the recommendations useful although at times theoretical. The overall value of the recommendations appeared to depend on how frustrating the GPs found the provision of textbook-type advice. Conversely, reassurance that the prescribed medicines were appropriate was important to some GPs.

> Lots of good advice came out. Lots of changes happened and I think almost 100% of them would have definite benefits from it, not just in terms of drugs or whatever but actually their well-being improved noticeably, which was great. [GP4]

> Medicine is a mixture of science and art whereas the medication review was purely science and sometimes the science doesn't go with the person... The clinical implications versus the textbook is not always the same and I think for a reviewer to go in simply from a scientific point of view it is not really going to work as I think we have to deal with both the science and the person themselves. [GP6]

Resource utilisation

Time and funding

Balanced against the theme of potential patient health outcomes was the theme of resource utilisation, with time and funding being the primary domains. There was a strong view that GPs should be funded for their time as they are still primarily a fee-for-service business, and not fully capitated. There was also consideration of the expense of monitoring recommendations—laboratory time and nurses' time.

Approximately 10 minutes needed to be set aside to talk about each patient, although this was not necessarily considered a negative if the time was funded. It was acknowledged that having someone (the pharmacist) able to spend time doing research or spend time with the patient to pick up on potential problems was usually useful.

> So, I mean, we don't have the time and the facilities to sit and research. She had about X number of patients where she can really work. I don't have the time to do that, so I thought, excellent. In fact, I told her we should really do some more over a period of time. [GP7]

> No, in many ways, I mean, time is the biggest issue. In many ways it would be lovely if we could sit down and discuss every third or fourth patient, you know, and it would be learning for both but there is just not that time or money for that. [GP1]

Practical aspects of the service

There were some prompts provided for discussion on the practicalities of these medication reviews, including the preferred communication method, any preference for location of the service and issues with the implementation of recommendations.

The preferred communication method for feedback was face-to-face, with a small number believing face-to-face was useful initially, but once a relationship was established, a letter would be adequate. Towards the end of the interview it was asked whether there would be any benefit in having the pharmacist work in the practice on a sessional basis or whether it was better to have it provided from a community pharmacy. A small majority of the GPs thought that having the pharmacist in the practice was reasonable because they would be independent of the local pharmacists and more part of the general practice team.

> I would prefer it to be a practice service, I think, yes... I think the independent side is quite important. I feel that quite strongly actually... I think we have a different relationship with the local pharmacist. [GP8]

> I think it probably would be good to have the pharmacist in the practice because if you did have a query you could go to them and say why or what... plus from the point of view of the two way communication between the doctor and the pharmacist it would be better. [GP9]

When asked about difficulties in implementing some of the recommendations a few admitted that it was hard to remember who had been reviewed, and to not let the medicines review be superseded by other problems. Extra consultation time needed to be allocated to cover the medication review.

Interprofessional relationships

Relationships was an underlying theme that potentially influenced the balance between the themes of patient health outcomes and resource utilisation. It incorporated views on the pharmacist's role through concepts of trust and respect. Having a professional relationship with the pharmacist was very important to the GPs. Because the pharmacists enrolled the GPs into the study, and so in most situations some prior working relationship existed, this view was open to bias.

Emerging through the theme of relationships there appeared to be some traces of territoriality.

Through many of the comments regarding the clinical recommendations and implementation, there was an underlying emphasis on the role of the general practitioner in controlling clinical decision-making, and that this was not the territory of the pharmacist

When the issue of territoriality was specifically raised, the GPs generally commented that this was not an issue for them and they did not find the medication reviews threatening or encroaching on their territory, but they could imagine that it may be a problem for a number of their colleagues. However, through many of the comments regarding the clinical recommendations and implementation, there was an underlying emphasis on the role of the general practitioner in controlling clinical decision-making, and that this was not the territory of the pharmacist.

> I think initially I was a wee bit sceptical. I suppose we all try to protect our patches a wee bit. There is certainly a feeling amongst the medical, some of my medical colleagues, that it is sort of an invasion of their right if you like. I don't necessarily see it

that way. I think anything that will benefit us in what we do, looking at how we care for people, and also for the people themselves, is fine. I mean it is up to us whether we actually read that and say, yes, I will do this or do that, or whether we say, alright, that's fine thank you and tend to ignore it. It is up to us I guess. [GP10]

Well the, I think, the issue of, sort of, boundaries. Where was the line between pharmaceutical advice and clinical decision-making? And I think that, I think, there were one or two points where you just felt sort of, maybe, hackles rising slightly, 'well that's our department' sort of thing and I think that is probably an issue; and that is an attitudinal thing I think, and it is very easy to fall into the sort of, 'well, I know my individual patients so I don't know what you are talking about', but that is not really the point. [GP8]

Perceptions of a potential future for clinical medication reviews

In response to direct questioning, GPs were ambivalent about whether there was a future for community pharmacists undertaking clinical medication reviews. A reflection of this ambivalence was that over three-quarters of them had not made a referral for a review since study initiation, although this was a service available outside of the study. Reasons for not referring included that it was not something that was in the front of their mind when they were seeing patients, or they were too rushed to refer even if they did think about it. There were comments that there needed to be a system to make the process more of a standard practice and that currently the system was not practical.

Just over half the GPs appeared positive that there was some future for the medication reviews. Hesitancy was focussed primarily on the funding and time issues, and the view that there would be only a limited number of patients who would be suitable. There were comments that the reviews had to be done well if they were going to work, and the pharmacist had to have credibility. A wide range of views were presented ranging from positive to more negative statements.

I know how useful it was in the hospital, fantastically useful in the hospital service, and it should be useful in the community too, especially for the older people and to make sure that they have got everything straight because they get so muddled. (Yes, I like the idea.) [GP11]

From a clinical point of view I think it is excellent but you are going to get back to a point of view of funding and what you are about to do, regardless of how excellent you think it is, will depend totally on funding. (Sees value but funding issues.) [GP12]

I suppose I am slightly guarded about that. I am sure there is a role. I am sure there is an extended role for pharmacists, put it that way, but we are still figuring out what that is and I guess some of us are a bit nervous too about, I mean, there are pharmacists who are very commercially orientated and they are already sort of pick around aspects of general practice which some of us tend to think might not be really be their business. (No, not keen.) [GP13]

Discussion

The GPs interviewed evaluated the benefits to patient health outcomes against the resources required for the service to produce a concept of 'value'. The threshold for GPs to perceive the usefulness of the recommendations varied, with some finding that reassurance that they were prescribing appropriately was useful, others finding the information and advice useful, even if not necessarily acted upon, and others being frustrated by the theoretical nature of some recommendations.

GPs considered the time and money needed was a large factor but despite the pressure of finding time to spend with the pharmacist, most GPs preferred to have a face-to-face discussion with the pharmacist. Time and funding may be particularly relevant in NZ because of our fee-for-service system and only partial capitation. Provided funding barriers can be met, it may be more efficient to have a clinical pharmacist providing sessions from the practice and so be part of the practice team, with easier communication. In the USA and UK postgraduate-qualified clinical pharmacists have been shown to have positive outcomes when working in primary care clinics or general practices.[11–15]

GPs tended to distance themselves from views on territoriality, commenting on how their

colleagues may perceive the service. While not seeing themselves as territorial, there was an underlying impression from the comments that control of clinical decision-making was the role and territory of the general practitioner. As long as the pharmacist did not encroach on this role, there were no feelings of territoriality. This tends to be similar to the work by Edmunds and Calnan.[8] The GPs had high regard for pharmacists' skills that focussed on them helping patients 'manage their medicines', but were less accepting of a more clinical role such as intervening in prescribing decisions, monitoring or sharing patient records. Reebye et al.[16] identified a suggestion that pharmacists undertaking roles such as dependent prescribing should be working in primary care clinics, under the control of doctors. Hughes and McCann[7] found that GPs referred to community pharmacists as 'shopkeepers', but a pharmacist located in general practices could be considered more part of the health care team (and under the control of the general practitioner). This greater acceptance of a pharmacist in the general practice was similar to the current study.

Hospitals have a strong focus on interdisciplinary teams and continue to develop this concept with increasing professional respect and trust between hospital doctors and pharmacists, allowing better teamwork, collaboration and decision sharing. Within the hospital environment there is more opportunity for medical practitioners to have contact with clinical pharmacists and to be exposed to a new service. This exposure to an effective service helps break down the stereotypical perceptions as discussed by Adamick et al.[17] and will enhance the opportunities for further implementation. A new service that is not done well impedes any further implementation.

A limitation of this study was that the GPs generally had a prior relationship with the community pharmacist before the GPPC study, were willing to participate in the study, and therefore were possibly favourably predisposed to the concept.

The GPs were aware that the researcher was a pharmacist studying through the Department of General Practice and Primary Health Care at Auckland University, with a background in pharmacist facilitation, working with GPs in a Primary Health Organisation. It did not appear that the GPs were providing socially acceptable responses because the researcher was a pharmacist, and some of the less favourable comments would support this, although the interviewees may have responded differently to a general practitioner interviewer.

The lack of a second investigator checking the transcripts for themes was a limitation.

On reflection, it would have been useful to explore whether the GPs would have used discretionary funding to employ a pharmacist to undertake this work. This concept would require more research on the cost-effectiveness of clinical pharmacist medication reviews. The literature is conflicting with some randomised controlled trials suggesting a lack of impact of community pharmacists undertaking clinical medication reviews,[18–23] but other studies indicating that clinical pharmacists in clinics or general practices have a positive impact on patient health outcomes.[11,14,24,25] Clinical pharmacists in practices or clinics occur in the United Kingdom and the USA, but are only starting in NZ and need further research into the barriers and effectiveness.

Conclusion

GPs tended to balance the themes of patient outcomes against the resources required to determine the value of clinical medication reviews by pharmacists. Pertinent factors involved the quality and usefulness of the recommendations, the efficiency of the system in terms of time and funding required, and some issues of role perception or territoriality. Taken in conjunction with other literature, it may be more suitable to use clinical pharmacists working within general practice to improve the efficiency of the clinical medication reviews and reduce drug-related morbidity and mortality. This system would create closer association and communication with the practice team. It may also be preferable for the clinical pharmacist to have collaborative prescribing privileges to implement recommendations that are agreed by the general practitioner to improve efficiency, provided some of the general practice funding and territorial barriers are met.

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COMPETING INTERESTS

None declared.