

# A pharmaceutical needs assessment in a primary care setting

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## SUMMARY

**Background.** As part of a reconfiguration of its general medical services, Ardach Health Centre has integrated a community pharmacist into the centre to provide pharmaceutical care. In order to systematically identify areas of 'pharmaceutical need', a needs assessment was carried out during October 1997.

**Aim.** To prioritise and assist the planning of pharmaceutical care provision within the centre, such that maximum gain could be achieved from inevitable limited resources.

**Method.** A four-stage pharmaceutical needs assessment method was created around a selection of techniques: gap analysis, the nominal group technique, and rapid participatory appraisal. This was then applied to a random sample of people drawn from the patient register of Ardach Health Centre and all the health care professionals associated with their care.

**Results.** Through the four-stage process, a pharmaceutical service priority league table was constructed to reflect the unmet pharmaceutical needs of patients and their primary health care providers. The table provided a structured framework around which pharmaceutical service provision within the health centre could be planned.

**Conclusion:** We have developed a pragmatic, systematic method of identifying the prevalence of unmet pharmaceutical needs of a community. The assessment assisted service selection, balancing what should be done with what could be done and what could be afforded.

**Keywords:** needs assessment; pharmaceutical services; primary care.

## Introduction

MANY general practitioners (GPs) are beginning to realise the added value of having a pharmacist provide pharmaceutical services within their practice.<sup>1,2</sup> The range of services that can be provided is wide, varying from advice on cost-effective prescribing through to therapeutic drug monitoring. Nevertheless, there has been a tendency for GPs to focus pharmaceutical input on those areas that can realise immediate efficiency or cost savings; for example, by formulary management or switching from proprietary to generic preparations.<sup>3</sup>

Ardach Health Centre is a six-partner practice with a patient list size of 10 221 and an annual consultation rate of 24 000. The group is located in Buckie, a small, semi-rural fishing town on the north east coast of Scotland. There is also a single practice in

the town with a list size of approximately 1300. The town has a small 68-bed community hospital which is serviced by all the local GPs. As part of a reconfiguration of its general medical services, Ardach Health Centre has integrated a community pharmacist into the practice to provide pharmaceutical care; i.e. to encourage high quality, cost-effective medicines management and usage through pharmaceutical interventions. In order to systematically identify areas of 'pharmaceutical need', a needs assessment was carried out during October 1997. The aim was to prioritise which pharmaceutical services were to be implemented given inevitable limited resources.

## Method

The pharmaceutical needs assessment was carried out in four consecutive stages. The initial stage comprised semi-structured face-to-face interviews with individuals from the various groups on whom the pharmaceutical care and services to be provided at the practice would potentially impact. These individuals were the six GPs from Ardach Health Centre, the four community (High Street) pharmacists currently providing pharmaceutical services to patients of the practice, the secondary care pharmacist responsible for the community hospital in Buckie, the five nursing staff providing nursing services to Ardach Health Centre patients, three representatives of six administrative staff, and 13 representative patients selected because they were high service users or had chronic problems (paediatric, cardiovascular, respiratory, diabetic, or malignant disease patients). These particular patients were selected because they would have a wide experience to draw upon and may provide insight into the types of pharmaceutical need that other patients may have. A research pharmacist conducted the interviews, which were of 20 to 30 minutes in duration. The open-ended question asked at interview was: 'What do you need from pharmacy services and why?', the purpose being to draw out the individual's 'felt' need(s); care was taken not to prompt.

The second stage of the pharmaceutical needs assessment was a postal survey of different groups using questionnaires based on information collected during the earlier interviews. Two questionnaires were developed: one for circulation to the Ardach Health Centre health care professionals, and a second, simplified version, for circulation to 1000 randomly selected patients. A reminder was sent out to non-responders two weeks after the initial mailing. The questionnaire to the health care professionals presented a comprehensive list of the 22 different services that a practice-based pharmacist might provide (Box 1). The list incorporated services identified at interview as well as a small number of options, of which the non-pharmaceutical professionals may not have been aware. For each item, responders were asked to rank, on a five-point Likert scale ranging from 1 (highly desirable) to 5 (highly undesirable), how useful they would find the provision of that service. The rankings for each service were then ordered by frequency of ranking to produce a league table of 'felt' need. Since the pharmacists were likely to consider the provision of all the questionnaire's 'proposed services' to be useful, they were asked to identify which of the 22 services should be provided immediately.

The patient questionnaire (available from the authors on

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**Clinical services**

- professional education
- patient education
- medication review
- pharmaceutical needs of recently discharged patients
- specific clinics
- clinical projects
- benzodiazepine withdrawal policies
- drug information
- therapeutic drug monitoring
- domiciliary visits
- health and preventive medicine promotion
- therapeutic substitution

**Management services**

- prescribing policy development
- prescribing quality indicator development
- advice on appropriate generic prescribing
- research projects/clinical audit
- computer 'housekeeping'
- Scottish prescribing analyses (SPA)/prescribing analyses and cost (PACT) data interpretation
- formulary management
- hospital liaison — drug summaries
- liaison with community pharmacists/Medical Prescribing Officer/Pharmaceutical Prescribing Advisor
- screen data from industry

**Box 1.** Proposed pharmaceutical services.

request) was designed around the 'needs' elicited from the patients interviewed in Stage 1 and required the responder to answer yes or no. In addition, free text questions requesting suggestions for additional pharmacy services or changes to existing services were included. Questions were not asked where suggested service improvements were currently underway; for example, to the repeat prescribing system.

The third stage of the pharmaceutical needs assessment comprised a two-hour open forum meeting for all the health care professionals (i.e. all non-patient interviewees), at which feedback of results from Stages 1 and 2 were presented. This provided the opportunity for a discussion of the league table (frequency of ranking by health care professional) and the issues raised by patients during the interviews. Initially, it was intended to present the results of the patient postal questionnaire, but, owing to practical difficulties, these were not available; these results were, however, used as a validity check for the issues raised by the representative patients at interview. During the third stage, consensual agreement was reached on an overall 'priority' league table of both patients' and professionals' perceived needs; i.e. service prioritisation was driven by the frequency of 'felt' need.<sup>4</sup>

Having identified and prioritised the areas of pharmaceutical 'felt' need, the fourth and final stage of the pharmaceutical needs assessment process was to use the 'priority' league table in the final selection of pharmaceutical care to be provided. An important determinant was the time the practice pharmacist would be available each week, which was to be three sessions of four hours each. To approach this in a structured manner, a 'sessional time' was attached to each of the services in the 'priority' league table. A sessional time being defined as 'the proportion of a session in which the practice pharmacist could provide profitable output for that service', where a session represented four hours. For example, it was considered that the various tasks associated with 'advice on appropriate generic prescribing for a specified drug' could be achieved in two hours; this was therefore assigned a half-sessional time. Using the 'priority' league table and associated sessional times, a steering group of Ardach Health Centre personnel (two GPs, a nurse manager, and a practice manager) and the research pharmacist discussed and came to a final decision on the pharmaceutical care/services to be immediately implemented by the practice pharmacist.

**Results***Stage 1 — individual's 'felt' needs*

The various professional groups identified areas of both agreement and disagreement regarding the practice's pharmaceutical needs. Areas of need identified by all of the professional groups were improved communication channels between health care professionals and both patient and professional education. The six GPs also identified their main needs to be: practice prescrib-

ing protocols, patient medication review, a liaison pharmacist between care sectors, repeat prescribing system improvement, formulary management, and therapeutic drug monitoring. The five nurses identified their main needs to be: pharmacy review of patients at home, delivery of medicines, alternative medicine provision, and help and advice on the safe handling and storage of drugs. The five pharmacists considered the needs of the practice and patients to be: medicines management, repeat prescribing review, medication review, computer software update, formulary development, prescribing policy development, and pharmacy review of patients at home. The three administrative staff (representing six in total) stated their needs as: an improved repeat prescribing system, advice on Scottish Prescribing Analysis data, personal education on drug-related issues, and prescribing protocols.

The perceived needs of the 13 representative patients expressed during individual interview are given in Table 1.

*Stage 2 — individual group prioritisation*

The 13 Ardach Health Centre personnel (response rate 100%) were asked to rank the desirability of 22 pharmaceutical service options. The vast majority of staff ranked the services favourably or had no opinion about them. The exceptions were three occasions when two nurses and one administrator rated meeting the pharmaceutical needs of recently discharged patients, clinical projects, and dealing with pharmaceutical industry representatives as undesirable services.

Figure 1 shows the number of health care professionals rating a pharmaceutical service as highly desirable or desirable, indicating the 'felt' need within the practice for each of the services, offered. There were clear differences between the responses of the GPs compared with the practice nurses. Almost all of the medical staff were interested in benzodiazepine withdrawal policies whereas the nurses were not. Conversely, all of the nurses were interested in health and preventive medicine promotion, whereas fewer GPs were.

Box 2 lists the pharmaceutical services of the 22 options and other issues that the local pharmacists considered to be of immediate priority. The patient postal questionnaire elicited a high response rate (77%, 777/1000); results are summarised in Table 1. It can be seen from this table that the patients were selective about the proffered services; for example, almost 77% of patients wanted a drug information service, yet only 4% were interested in near-patient testing (primarily those undergoing regular hospital blood testing).

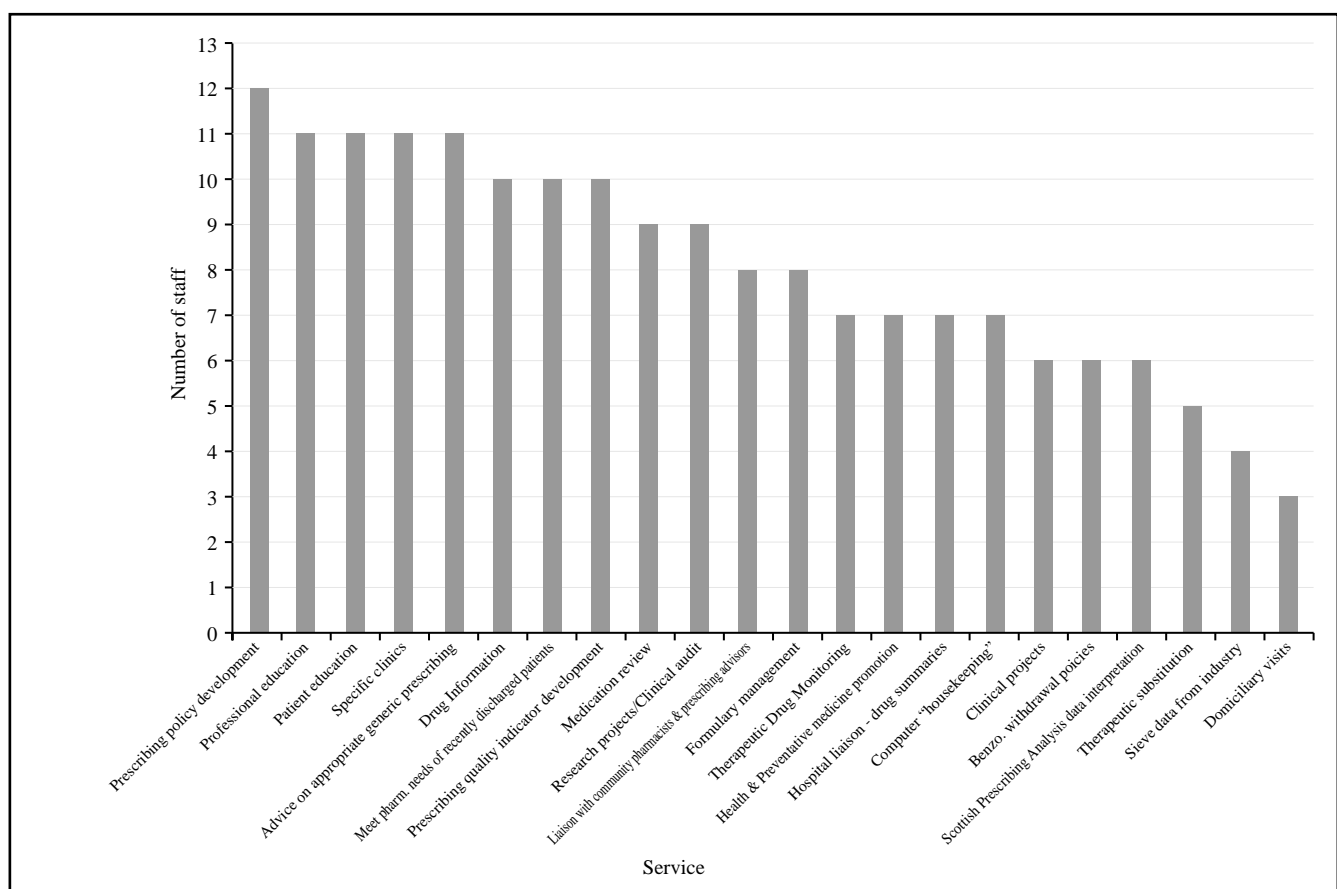
*Stage 3 — overall prioritisation of pharmaceutical services following the collation and open forum discussion of results from Stages 1 and 2*

During Stage 3, consideration was given to the service priorities

**Table 1.** Patient perceived pharmaceutical needs, Stages 1 and 2.

Pharmaceutical service identified in Stage 1	Stage 1 (individual interview) n = 13 Percentage of patients expressing 'felt' need	Stage 2 (postal questionnaire) n = 1000; responders = 777 Percentage of patients expressing 'felt' need
Repeat prescribing system to be improved	10 (76.9)	1.5 <sup>b</sup>
Drug information	7 (53.8)	76.8
Regular medication review	3 (23.0)	67.0
Specialist services; e.g. oxygen at home	1 (7.7)	0.6
Domiciliary visit by pharmacist to discuss medication	N/A	5.5
Home delivery of medicines	5 (38.4)	30.4
Access to alternative therapy; e.g. aromatherapy	1 (7.7)	73.4
Medication labelling to be transparent	1 (7.7)	89.1
Near-patient testing	1 (7.7)	4.2 <sup>a</sup>
Continuous pharmacy access	2 (15.3)	6.9 <sup>b</sup>
Other (varied suggestions)	1 (7.7)	9.6

<sup>a</sup>74.5% of those undergoing regular blood tests; <sup>b</sup>question not asked directly but answer given to 'suggestions to improve current service' question. N/A = not elicited during interview (care was taken not to prompt patients during interview).

**Figure 1.** Twenty-two pharmaceutical services ranked as desirable or highly desirable by Ardach Health Centre responders.

assigned by all the professional and patient groups by collation and an open forum discussion of the results from Stages 1 and 2. It was agreed by the group present at Stage 3 that Figure 1 provided an invaluable indicator of 'unmet need' for Ardach Health Centre staff, although the distribution of ranked desirability is not so much an indication of 'actual need' but a reflection of the different roles, perspectives, and responsibilities of the various professional groups. Areas of 'need' identified by the health care and patient groups during Stages 1 and 2 varied; however, there

were several areas of high accord. These were: patient medication review, medication education at both a professional and patient level, drug information, prescribing policy development, and seamless care. Given these areas of accord, it was decided that the 'ranked service league table' (Figure 1) generated by the health care professionals of Ardach Health Centre appeared to be representative of each of the professional groups and the patients, and could therefore be adopted as the 'priority league table' (Table 2). Sessional times, as described above, were attached to

- Medication education requirement for Ardach Health Centre staff, patients, and carers;
- patient medication review;
- prescribing policy development;
- domiciliary visits;
- liaison pharmacist between the secondary and primary care sectors,
- communication channels to be improved between all health care professionals;
- avoid recurrent 'operational management' problems occurring between the GP surgery and community pharmacy; and
- avoid inappropriate over-the-counter recommendation to patients.

**Box 2.** Pharmacists' ( $n = 5$ ) perceptions of services to be given immediate priority.

this table prior to going forward for use in Stage 4.

#### Stage 4 — resource allocation to prioritised services

The 'priority league table', with associated sessional times, (Table 2) provided a structured framework around which the steering group discussed and finally decided on those pharmaceutical services to be immediately implemented by the 'practice' pharmacist. These were:

- The development and implementation of a prescribing policy for hypercholesterolaemia and the use of 'statins' — one session per week. Decision reason: policy development was an issue of importance to all of the health care professionals involved in the needs assessment.
- A patient medication education clinic — one session per week. Decision reason: this was an area identified as an unmet need by professionals and patients alike. The clinic would be operated on a referral basis from the GPs to the practice pharmacist, with the option of patient self-referral at a later date. The objective of the clinic would be to improve patient understanding of their treatment and to promote concordance. This would be achieved by identifying patients' specific medication problems and to help overcome these by providing information on how and why patients should manage their medicines. Although community pharmacists could

theoretically provide this service, they do not currently have the necessary protected time.

- Computer 'housekeeping' — one session per week. Decision reason: a generic category to solve assorted management problems that were affecting patients, practice personnel, and community pharmacists. Possible services could include a drug utilisation review, rationalisation of treatment, and updating the practice prescribing software; for example, to improve labelling instructions<sup>14</sup> or to remove controlled drugs from the system, thereby forcing the legal requirement for hand-written prescriptions.

#### Resources consumed during the assessment method

The resources consumed varied between stages. Stage 1 interviews with patients and professionals totalled 17 hours of interviewer time and were conducted over four days. Preparation and piloting of patient and professional questionnaires during Stage 2 consumed a further five days. The postal survey, inclusive of paper, postage, reminders, secretarial services, and data entry, cost £1850 and required four weeks to complete. Stage 3 involved a half-day presentation preparation and the two-hour open forum meeting. The 'steering' group meeting of Stage 4 lasted approximately one hour.

#### Discussion

The definition of health needs assessment has developed from a basic epidemiological definition, 'has a disease',<sup>5</sup> through to the more sophisticated, multifaceted, 'has the capacity to benefit from an intervention'.<sup>6,7</sup> A variety of techniques<sup>8-13</sup> have been used to assess health needs and, as stated by McEwen *et al.*,<sup>15</sup> '...there is no single best method of assessing health needs — different issues and questions require different methods and approaches and degrees of detail and different combinations of professionals to be involved.'

No previous reports of pharmaceutical needs assessment that considered the 'needs' of both provider and consumer groups within a primary care setting were identified in the published literature. Consequently, a composite method of various techniques

**Table 2.** Pharmaceutical service priority league table. One session = four hours.

Ranking	Service	Time (session)
1	Prescribing policy development	1.0
2 =	Professional education	0.5
2 =	Patient education	0.5
2 =	Specific clinics	1.0
2 =	Advice on appropriate generic prescribing	0.5
6 =	Drug information	0.5
6 =	Meet pharmaceutical needs of recently discharged patients	0.6
6 =	Prescribing quality indicator development	1.0
9 =	Medication review	1.0
9 =	Research projects/clinical audit	1.0
11 =	Liaison with community pharmacists and prescribing advisors	Variable
11 =	Formulary management	1.0
13 =	Therapeutic drug monitoring	1.0
13 =	Health and preventive medicine promotion	0.5
13 =	Hospital liaison — drug summaries	0.5–1.0
13 =	Computer 'housekeeping'	0.5–1.0
17 =	Clinical projects	1.0
17 =	Benzodiazepine withdrawal policies	1.0
17 =	SPA/PACT data interpretation	1.0
20	Therapeutic substitution	1.0
21	Sieve data from industry	Variable
22	Domiciliary visits	1.0

was used to yield insight into the pharmaceutical care needs of the patients of Ardach Health Centre. The 'pharmaceutical needs assessment' method developed has been constructed around a selection of techniques: 'gap analysis',<sup>8</sup> the 'nominal group technique',<sup>9</sup> and 'rapid participatory appraisal'.<sup>10</sup>

'Need' has been defined in several ways: 'normative need',<sup>5</sup> 'comparative need',<sup>5</sup> 'expressed need',<sup>5</sup> 'felt need',<sup>5</sup> and 'the ability to benefit from an intervention'.<sup>6,7,14</sup> The 'need' described in this assessment is 'felt need', i.e. the various groups involved, either as receivers or providers of the service, stated what they considered a need.

The questions asked by postal questionnaire were informed by the individual interview of selected patients in Stage 1 who were high service users suffering from chronic conditions. Therefore, it can only be expected that a random sample of non-selected patients would not proportionally mirror the 'felt' needs of the selected patients. Results suggested that patients were selective about the proffered services, but areas of interest to all patients were: a drug information service, regular medication review, access to alternative therapy, and for medication labelling to be precise. Areas of interest to those patients with specific problems were specialist services and near-patient testing. Importantly, the open-ended question provided the opportunity for patients to suggest changes or improvements to current pharmacy provision. In terms of the overall assessment, handling the patient questionnaire was the most demanding in time and resources. In future assessments, if time and resources are constrained, it is possible that this could be forfeited, as the results appeared to validate the range of issues raised during the selected patient interviews.

From the Ardach Health Centre health care professionals' viewpoint there was a 'felt' need for all of the services on offer to a lesser or greater degree. Some services appeared to be desirable to most and others desirable to only a few, these differences probably reflected the relevance of the proposed services to the professional group. The local pharmacists' perception of services to be given immediate priority concurred with services most frequently suggested by Ardach Health Centre staff. During Stage 3 a priority league table was adopted, which provided a starting point for the final decision-making process in selecting future pharmaceutical service provision (Stage 4). An incidental and important benefit from Stage 3 was the 'opening up' of communication channels, an issue that had been raised during Stage 1 by all of the health care professionals. The multidisciplinary meeting of the 'health carers' allowed open discussion, not only of individual groups' needs but it also allowed increased mutual awareness of the other professions' *modus operandi* and their interplay. For example, the GPs became aware of the additional workload caused by the incorrect writing of controlled drug prescriptions.

## Conclusion

The method we have developed is a pragmatic, systematic method of designing a pharmaceutical service tailored to local need in contrast to implementing a service on the basis of need expressed elsewhere. The approach balances what should be done with what can be done and what can be afforded.

The services selected have been implemented and evaluation data collected. Analysis is ongoing and formal results of the benefits achieved will be reported at a later date. As stated by Wilkinson *et al*,<sup>16</sup> 'needs assessment is a cyclical process...' and evaluating how well needs have been met will then come back to assessing the needs that have not been met. For Ardach Health Centre, the existence of a pharmaceutical service priority league table provides a guide for systematically introducing further services as resources become available.

In summary, the type of pharmaceutical needs assessment described here aids the prioritisation and development of services

that incorporates the 'felt' need of both provider and consumer groups. Importantly, it has provided a formal mechanism for patients to have a say in the service they receive and has opened up interprofessional communication channels. The usefulness of this method to other general practices and settings; i.e. urban, rural, and remote, remains to be tested but could assist service planning within primary care groups and local health care co-operatives.

## Key points

- The issue and question under investigation drive the methods and an approach to needs assessment.
- There is a diversity of need for individual pharmaceutical service options by different health care professional groups.
- Pharmacy can contribute to general practice in a range of ways that may not have been previously identified.
- This form of needs assessment opens communication channels between health care professional groups.
- Pharmaceutical needs assessment, as described, provides a formal mechanism for patients to have a say in the service they receive.

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