

# PROGRESS MADE TOWARDS IMPLEMENTING PHARMACEUTICAL CARE

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*In this article the author considers the concept of pharmaceutical care, which is still evolving, followed by discussion on the development and application of this philosophy within current pharmacy practice. A literature search forms the basis for the subsequent assessment of the progress made in, and documented barriers to, implementing pharmaceutical care*

In his discussion on the differences between pharmaceutical care and medicines management, Barber<sup>1</sup> presents an interesting perspective: pharmacists have added a societal viewpoint to pharmaceutical care and the patient's perspective to medicines management. There is probably little difference between the two definitions, and with time, reflection and debate, the realities of practice will draw them together.<sup>1</sup>

## PHARMACEUTICAL CARE

The term "pharmaceutical care" has been advocated to enable pharmacists to describe their developing role as patient-focused health care providers. First defined in 1975 as the care that a given patient requires and receives which assures safe and rational drug usage,<sup>2</sup> professional focus until the early 1990s was primarily on controlling the availability and distribution of the drug product and not specifically on patient need within identified clinical parameters.<sup>3</sup> In the historical context, pharmacists have a baseline dispensing and supply function.<sup>4</sup> Their role has been to provide medicines for individual patients and appropriate advice to meet the needs of that patient. It is important to recognise that prescription dispensing and reimbursement records from the Prescriptions Pricing Authority provide some measure for this activity but the provision of associated appropriate advice by pharmacists has always been more difficult to evaluate.

The 1990 Hepler and Strand definition of pharmaceutical care is generally accepted as incorporating a mandate upon which the profession of pharmacy can build.<sup>5</sup> With emphasis on improving delivery of patient care, pharmaceutical care was defined as the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life.<sup>5</sup> Generally this definition has been used by pharmacists to encompass any professional activity they undertake.<sup>6,7</sup> This is why, with further reflection, the Minnesota team endeavoured, in 1992, to present a more specific explanation for the term pharmaceutical care.<sup>8</sup> They classified the pharmaceutical care practitioner as one who builds up a practice, takes responsibility for all of the drug-related

needs of patients in that practice and who, most importantly, holds him or herself accountable for meeting these needs. A clear distinction is made between a pharmaceutical service that is product-oriented and one that is patient-oriented.

Pharmaceutical care is a health care practice with an inherent philosophy. When undertaking drug therapy management for patients, the practice will include a combination of patient care and management processes. To provide this service, the pharmacist has to disassociate him or herself from the dispensing process, this being delegated to trained dispensers.<sup>3,9</sup> There has to be an individual patient appointment system. There also has to be formal documentation and evaluation processes in place in the pharmaceutical care practice (Figure 1). The practice should not, ideally, encompass only one therapeutic field, since the pharmaceutical care practitioner should be assessing each patient's total drug therapy for indication for use and appropriateness, for safety, efficacy and compliance. Here the practitioner takes responsibility first for preventing and, secondly, for resolving any identified drug therapy problems. The practice can be established within the hospital, GP surgery or community pharmacy setting.

In contrast, Professor Hepler, now based at the University of Florida, has been developing the concept of pharmaceutical

care by focusing on one disease state at a time, and monitoring therapeutic outcomes for these specific patient groups. Ongoing studies of pharmaceutical care include application and assessment in medical conditions such as asthma, diabetes, angina, hypertension and hyperlipidaemia.<sup>10</sup>

It is also important to remember that for patients to be provided with successful seamless pharmaceutical care, collaborative, multiprofessional working relationships are essential.<sup>11-13</sup> This aspect is addressed in the International Pharmaceutical Federation 1998 statement on pharmaceutical care,<sup>11</sup> as follows:

*"... is the responsible provision of pharmacotherapy for the purpose of achieving definite outcomes that improve a patient's quality of life. It is a collaborative process that aims to prevent or identify and solve medicinal product and health related problems. This is a continuous quality improvement process for the use of medicinal products."*

Interestingly this definition does not emphasise pharmaceutical care as being an individualised practitioner, practice-based process.<sup>3,8</sup>

Collaboration with other health care providers has enabled pharmacists to protect the public from vaccine preventable diseases. United States pharmacists, for

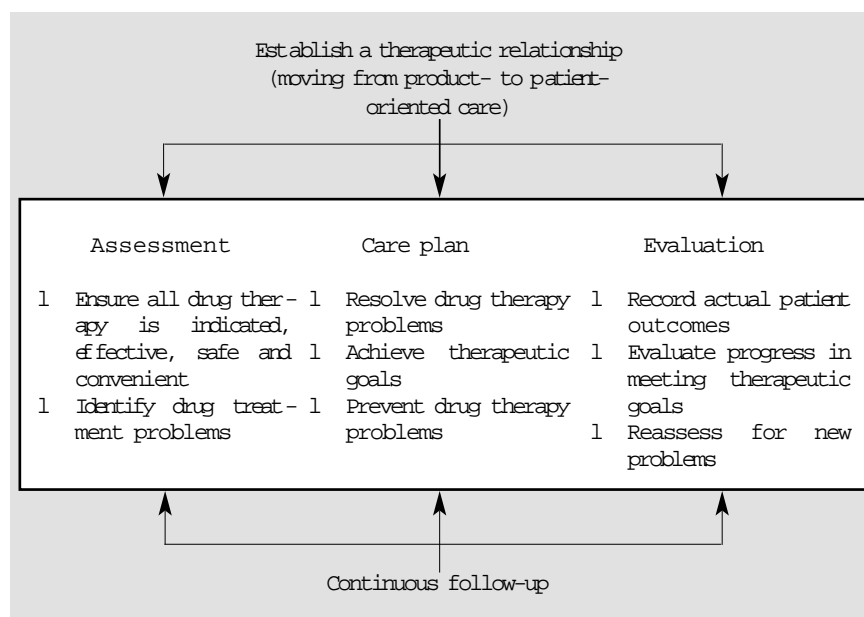


Figure 1: The pharmaceutical care process<sup>3</sup>

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example, with appropriate training and legal authority, are able to screen patient immunisation status and prescribe and administer the required vaccines.<sup>14</sup> Comprehensive documentation of the process of providing, analysing and redefining pharmaceutical care strategies for individual patients, in line with the users' needs, should be undertaken. This forms a record for the provision of patient-focused, pharmaceutical care.

It has been reported that medical practitioners appreciate pharmacists' written contributions of "clinical pharmacy events" to the hospital patient care record,<sup>15</sup> although the impact on patient management requires further study. Recording could include characterising the pharmaceutical care interventions by type, source, significance, potential patient implications and drug cost changes.<sup>16</sup> Collaborative drug therapy management (CDTM) is one model<sup>17</sup> that describes the development of a patient-centred practice in which the pharmacists' activities are integrated with those of other health care providers. Inherent within CDTM is the authority given to pharmacists to prescribe, defined in a Washington State paper, as being able to "initiate, modify or continue therapy in accordance with written guidelines or protocols".<sup>17</sup>

At a national level, for successful implementation of pharmaceutical care within the community, it will be necessary to have co-ordinated, collaborative working between pharmaceutical bodies and researchers.<sup>5,11,18</sup> There is a need for consensus from pharmacy regulators on the responsibility for evaluating pharmaceutical care outcomes, which is currently lacking.<sup>11,19</sup> Further research on health economic outcomes and the impact that pharmaceutical care can make in improving patient care needs to be undertaken before policy makers will accept and fund pharmaceutical care practice.<sup>5,11,20</sup>

In summary, pharmaceutical care reflects the same meeting of needs as medical care, dental care and nursing care, except that the focus is on meeting the drug-related needs of a patient.

## BARRIERS TO IMPLEMENTATION

The literature assessed for this section of the article was indexed on Pharm-line (a database on pharmacy practice and the clinical use of drugs; published by Guy's and St Thomas' Hospital NHS Trust and the UK Drug Information Pharmacists' Group) over the period January 1993 to October 1999. The key words were pharmaceutical care. Citations (title and abstract) were reviewed. All studies that used the term pharmaceutical care, and made some attempt to identify with the concept as discussed above (pharmaceutical care process, methodology, measures/outcomes) and barriers to implementation, were included for assessment. Articles and editorials were excluded except for those including discussions with the original proponents of the concept of pharmaceutical care (Hepler, Strand and Cippole)

**Understanding the concept of pharmaceutical care** The pharmacy profession, and health professionals in general, need to understand what the provision of pharmaceutical care involves. Within pharmacy, comprehension is variable and often limited.<sup>21</sup> The profession has already started the process of discussion and debate to reflect on and identify suitable pharmaceutical care practice. Appropriate application will be dependent on current infrastructures in place, and these will generally vary from country to country.

Emphasis has been placed on the importance for researchers to distinguish between provision of clinical pharmacy services and pharmaceutical care per se.<sup>8,22</sup> With time various models will emerge. Interestingly, Strand<sup>7</sup> emphasises that her vision of a pharmaceutical care practice is not dissimilar from health care practice provided by other allied medical practitioners. There could also be an evolution of sub-specialty pharmaceutical care practitioners.<sup>7,23</sup> It is important for medical practitioners and nurses to view pharmacists as integral members of the health care team<sup>22,24</sup> and understand and accept the philosophy of pharmaceutical care. Professional regulatory processes need to be in place. Their aim should be to measure pharmaceutical care outcomes rather than concentrate on technical-based pharmacy systems.<sup>19</sup>

Research attempts to obtain robust patient care outcome measures within current pharmacy practice settings, and especially where there is no formal pharmaceutical care practice in place, should be valued because these will form the base from which the profession will progress to practising pharmaceutical care. In two 1999 papers,<sup>25,26</sup> the researchers assessed the impact of a pharmaceutical care programme for the elderly and patients with asthma using quality of life validated instruments. They used the 1990 definition of pharmaceutical care.<sup>5</sup> In both of these controlled studies the pharmaceutical care programme concentrated on patient education and monitoring provided by community pharmacists.

Pharmaceutical care provision in a study assessing elderly patients' adherence to medication following discharge from hospital included review of drug regimen, suitability of packaging supplied, provision of information and liaison with community health practitioners and carers.<sup>27</sup> Different categories were assessed in an 11-year review of the value and acceptance of clinical pharmacy interventions. These included drug therapy monitoring, drug information and education, adverse drug reaction reporting, control of medicines administration, and other related drug management services.<sup>28</sup> These research studies provide some useful insights. They demonstrate both positive patient benefits with pharmaceutical intervention and the difficulties in measuring outcomes showing cost benefits. They constitute some of the current advances made by researchers towards pursuing the concept of pharmaceutical care.

**Appropriate settings** There are currently few appropriate frameworks within which it would be feasible to provide pharmaceutical care, viewed in the context of the practitioner practice definition.<sup>3,8</sup> Within the community although pharmacists are keen to develop their professional roles<sup>21</sup> there are environmental constraints. Pharmacists are legally tied to pharmacy premises, do not delegate dispensing duties and need to have adequately trained pharmacy support personnel.<sup>9</sup> Many lack private counselling areas.<sup>3,21</sup>

Multi-disciplinary liaison and ongoing research to inform appropriate application are other aspects that need to be addressed.<sup>9,12,18,22</sup> Campbell and Saulie<sup>29</sup> developed an experimental pharmaceutical care programme in a Washington medical practice and concluded that many of the barriers to providing pharmaceutical care could be eliminated or diminished in this setting. For patients attending a US medical centre, outcomes in heart failure were shown to improve significantly with a clinical pharmacist as a member of the multidisciplinary heart failure team.<sup>30</sup> Other pharmacists who are accepted and work closely with health care teams have reported improving patient care through assessment of patient drug therapy.<sup>14,17,24,31,32</sup> A clinical nutrition pharmacist, reviewing drug-related problems, reported that 30 per cent of patients needed intervention.<sup>32</sup> The assessment included drug interactions, untreated indications, inappropriate drug administration and drug use without an indication. To enable pharmacists to meet the needs of terminally ill patients in US home and hospice settings, symptom management algorithms were developed in collaboration with other health care providers.<sup>17</sup>

**Other factors including funding issues** Low public expectation of the profession of pharmacy<sup>21</sup> can be demotivating and there is a need for a proactive attitude from the whole profession.<sup>7,33</sup> A way to change the professions' mindset would be to start teaching the concept of a pharmaceutical care practice to pharmacy students.<sup>7</sup> This is now happening in a number of the UK MPharm courses (personal communication: C. Anderson; C. Mackie).

Factors such as perceived patient attitude, pharmacists' positive attitude towards patients and pharmacists' confidence have been shown significantly to facilitate the provision of pharmaceutical care.<sup>34</sup> The availability of adequate training<sup>26,35</sup> is necessary to enable pharmacists to provide pharmaceutical care. Lilley *et al*<sup>24</sup> propose that acquiring the appropriate skills to provide patients with high quality, more efficient care is crucial to be able to engage in competitive US managed care initiatives. Other barriers include time constraints<sup>21,35</sup> and financial incentives.<sup>21</sup>

It is difficult to demonstrate the economic value of pharmaceutical care. One review of published studies found that none met accepted pharmacoeconomic criteria,<sup>22</sup> making it difficult to use research findings to substantiate the financial benefits proposed

for providing pharmaceutical care. This has been noted before in pharmacy practice literature evaluation. In Hatoum's *et al* review<sup>28</sup> of studies assessing clinical pharmacy services, although the research illustrated the value of clinical services, most studies could not demonstrate cost-effectiveness.

## DISCUSSION

A Canadian study<sup>9</sup> assessed community pharmacists' attitudes and behaviour towards pharmaceutical care (n=230; response rate 79.1 per cent). The pharmacists were generally positive about trying to provide pharmaceutical care. They possessed "moderate to high" intentions. Outcomes for providing pharmaceutical care were rated high, showing that the pharmacists could conceptually see its benefits. However, the lower ratings for behavioural control suggest that the pharmacists believed that there was a lack of appropriate frameworks in place currently to adopt pharmaceutical care practice. The degree of control over work environments could be critical for implementing pharmaceutical care programmes, and there is a need to consider ways of enabling pharmacists to reconstruct their environments. One way is to delegate dispensing duties to suitably qualified technicians.

The effects of a pharmaceutical care certificate programme (PCCP) were measured in 36 US community pharmacies. The

PCCP was developed to train pharmacists in practice re-engineering, components of pharmaceutical care and drug therapy measurement of disease states. The main barrier to successful implementation reported was time,<sup>35</sup> although one year after training the pharmacists felt significantly better prepared to perform all pharmaceutical care components covered.

There has been considerable developments within Dutch community pharmacy since the 1970s<sup>33</sup> including improved relationships between pharmacists and doctors, and the implementation of clinical pharmacy and medication surveillance in daily practice. At the same time patients have become increasingly aware of their right to quality drug information and counselling. Against this background, it is now necessary to have a proactive attitude from all pharmacists,<sup>33</sup> vital if pharmaceutical care is to become integral to routine community practice. In the UK the profession has seen the advent of primary care pharmacists and primary care group pharmaceutical advisers<sup>36</sup> with opportunities to work with practice patients and therefore advance the practice of pharmaceutical care. Clinical pharmacy research within both primary and secondary care sectors has been useful in demonstrating the benefits of pharmaceutical intervention.<sup>8</sup>

In an Irish study, where 20 community pharmacists participated in in-depth interviews, there was wide variation in the understanding of the term pharmaceutical care. This probably explains why they believed

that the implementation of pharmaceutical care was restricted.<sup>21</sup> Perceived barriers included lack of time, little financial incentive, lack of private counselling areas and low public expectations of the profession. Fourteen respondents in this study believed that nurses and other health care professionals were a threat to the pharmacy profession in providing pharmaceutical care.<sup>21</sup>

In contrast, moving away from the community pharmacy environment, clinical pharmacists have successfully integrated pharmaceutical care clinics at a university-based family practice with approximately 27,000 registered patients. This fee-for-service medicines clinic, referred to as the Pharmacotherapy Clinic, was initiated in 1996.<sup>24</sup> Campbell and Saulie<sup>29</sup> reported both patients and physicians as "being impressed" with the pharmaceutical care service provided and "strongly desired" having the service continue.

To take forward the concept of pharmaceutical care practice successfully, it will be important to address the matter from many interlinked levels. Changes, which are important not only to inform professional duty but which may prove to be essential for professional survival, will need to be implemented for the profession. These will include changes in regulations, reimbursement structure, education, practice, patient expectations, pharmacists' relationships with doctors, the responsibilities of professional associations, the physical structure of pharmacies, and the attitude of the pharmacist.

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