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A Multi-professional Taught Course in Primary Care Therapeutics: Description and Evaluation

CHRISTOPHER J. DERRETT* and MARTIN R. UNDERWOOD

Department of General Practice and Primary Care, St Bartholomew's and the Royal London School of Medicine and Dentistry, Medical Sciences Building, Queen Mary, University of London, London E1 4NS, UK

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***Aim*: To describe and present an evaluation of a taught certificate course in therapeutics for primary care professionals. *Design*: A questionnaire study of the course participants analysed qualitatively and quantitatively. *Subjects and setting*: Students attending four primary care therapeutics courses held in east London and North Essex. *Outcome measures*: Participation and pass rates, participants comments and measures of course effectiveness in fulfilling participants aims. *Results*: 44 pharmacists, 48 GPs, and eight nurses attended the courses. They attended 91% of the sessions, 83% of assignments were submitted and 83% of students were awarded a certificate in primary care therapeutics. The course appears to be effective in satisfying most of the participants' aims particularly "general interest" and promoting professional and inter-professional development; it was less successful in fulfilling specific objectives such as the development of formularies, becoming a trainer, participating in prescribing reviews and in reducing drug costs. *Conclusions*: Community pharmacists, general practitioners and senior primary care nurses have much to gain from being educated together in an active-learning environment. This programme meets the demand for courses of intermediate length and difficulty within primary health care. There is the possibility that such courses will enhance inter-disciplinary working and encourage rational prescribing.**

Keywords: Primary health care; Therapeutics; Community pharmacists; Drugs

INTRODUCTION

Recent political, administrative, technological, economic and sociological changes have increased the importance of therapeutics training within Primary Health Care.

Primary Care Groups and Trusts are being established to serve the health needs of local communities. Greater collaborative work between different primary health care professionals is being proposed by the Department of Health:

> "*Integrated care for patients will rely on models of training and education that give staff a clear understanding of how their own roles fit with those of others*" (Department of Health, 1997).

*Corresponding author. Tel.: +44-20-7882-7944. Fax: +44-20-7882-6396. E-mail: c.j.derrett@qmul.ac.uk

Calman (1998) has suggested that the process of continuing professional development should take into account both uni-professional and multi-professional learning needs.

The Crown Committee (Department of Health, 1999) has recommended that, in the United Kingdom, the legal authority to prescribe should be extended. It is suggested that a new category of "dependent" prescriber be introduced; this might include pharmacists, nurses and other trained and approved members of the primary health care team.

There are marked differences in the prescribing behaviour of individual general practitioners, both between and within practices, which cannot be accounted for by differences in disease patterns or practice population (Majeed and Moser, 1999; unpublished data from the Prescription Pricing Authority and City and Hackney Primary Care Group, 1999). The Government has declared its intention to ensure quality and equality within primary care and to apply the principles of evidence-based health care (Department of Health, 1998). The National Institute of Clinical Excellence (2000) has been set up to develop guidelines for the management of a range of clinical conditions.

The cost of medicines used in primary care is increasing, in real terms, at 5% per year (Government Statistical Services, 1999). Primary Care Groups and Trusts will soon have a single unified budget for staff, hospital referrals, and prescribing; controlling the costs of medicines will be vital to maintain overall solvency.

New medications and preparations are introduced regularly and new uses for existing medications are being identified. Frequent updating is needed, if those who prescribe and dispense are not to become out of date in theory and practice or inappropriately influenced by pharmaceutical promotions.

Impartial information about medicines and their effectiveness is now available from a range of sources. Basic drug information may be obtained from the British National Formulary, the Data Sheet Compendium, eMIMS, regional drug information centres, poisons' bureaux and pharmaceutical companies. Subscription databases (e.g. MicroMedex) have enhanced the power of these facilities. Systematic reviews of clinical trials (e.g. the Cochrane Collaboration), digests (Clinical Evidence, Bandolier, Prescribers' Journal, Drugs and Therapeutics Bulletin, MeReC—National Prescribing Centre—Bulletin) and literature search facilities (Regional libraries, the Royal Pharmaceutical Society of Great Britain, EMBASE and Medline) are available to professionals working within the NHS. Many of these excellent authoritative sources of data can be accessed from a personal computer in the clinical workplace. The NHS–NET and the proposed National Electronic Library for Health (2000) should make these data easily available to all NHS professionals.

A MULTI-PROFESSIONAL EDUCATIONAL COURSE

Primary care training in therapeutics has traditionally been conducted in a uni-professional environment using didactic, lecture-based teaching. However, modern primary health care requires teamwork and active learning within a multi-professional environment is likely to be more effective and appropriate (Calman, 1998). To address these issues, the Department of General Practice and Primary Care at Queen Mary, University of London developed an interactive multi-professional education in clinical therapeutics for pharmacists, doctors and nurses working together via a certificate course—The Principles of Primary Care Therapeutics.

Aims and Objectives

The educational aims of the course are:

1. To promote a rational and reflective approach to therapeutics within primary and community care.

2. To foster understanding, good communication and inter-professional work between those members of the primary care team responsible for prescribing and dispensing medicines.
3. To update the course participants in specific relevant therapeutic areas.

The principle objectives are:

1. To provide relevant and up to date information on new cost-effective therapeutic agents and modalities.
2. To present basic pharmacological theory and practice in the context of primary and community care.
3. To discuss and reflect on legal, ethical, political, psychological, social and economic aspects of the use and misuse of medicines.
4. To discuss and reflect on the principles in the use of medicines in the management of chronic diseases in general practice.
5. To discuss and reflect on organisational aspects of prescribing and dispensing medicines within primary care and in the community.
6. To develop expertise in the use of drug information resources and technology and to identify barriers to information flow between healthcare professionals.

In developing the course, due account was taken of local and national prescribing strategies. The course has a number of secondary targets related to specific drugs or patient groups that have been identified as "problem" areas by various Health Authorities in the London area:

1. To encourage a reduction in the use of oral NSAIDs, topical NSAIDs, hypnotics, enteral feeds and antibiotics for self-limiting illness.
2. To encourage the use of low-dose aspirin and lipid lowering drugs (in coronary heart disease), steroid inhalers (in asthma) and ACE inhibitors (in heart failure).
3. To encourage review of doses of diuretics, drugs in the elderly, patients in nursing homes, patients on repeat prescriptions and emollients.

Course Format

The Certificate in the Principles of Primary Care Therapeutics is a taught course of seven "blocks", 2 whole days and 5 half days, run over 15 weeks (28 h) with six short practice-based assignments (18 h). It has now run on four occasions.

Only community pharmacists and general practitioners attended the first two courses; later some senior nurses working in primary care also attended. The programme of the taught course and homework assignments is shown in Table I. The course was repeated in 1999/2000.

The course has been held on two sites: one in east London and one in North Essex. Participants have been recruited from a wide area and funding has been obtained from Educational Boards, Educational Consortia and five Health Authorities (East London and the City, Barking and Havering, Redbridge and Waltham Forest, N. Essex and S. Essex).

The course is coordinated by an academic GP (CJD) in conjunction with a pharmacy tutor. The individual taught sessions have been run by "experts" who have been chosen as much for their communication skills as for their expertise. Most taught sessions include an element of group work.

Accreditation

Participants are encouraged to work together on the in-practice assignments.

A Queen Mary, University of London Certificate in The Principles of Primary Care Therapeutics is awarded to those delegates who complete, to a satisfactory standard, written reports on the short practice-based assignments. Marks are awarded for clarity of message,

TABLE I Programme for the taught course (approximately 28 h) and homework assignments (approximately 3 h each)

1 whole day
Some basic pharmacological principles
The use of medicines in their social context
Group exercise: what is quality in prescribing?
Iatrogenic disease and the use of drugs in vulnerable people (the elderly)
Antibiotics—when appropriate?
Assignment 1—audit of a chronic disease
2 half day
CHD—the therapeutic possibilities from an epidemiological viewpoint
CHD—therapies old and new, lipid lowering and hypertension
Assignment 2—PACT analysis
3 half day
Drug abuse and misuse
Dealing with demanding patients
Assignment 3—critique of a repeat prescribing system
4 half day
Drugs in neurology
Rheumatological disease—a quiz
Assignment 4—health education material
5 half day
Palliation of pain
Symptom Control in the terminally ill
Assignment 5—use of drug information resources
6 half day
Drugs for mental illness
Assignment 6—a medicines log: reflecting on what we prescribe/dispense
7 whole day
Contraception: some recent advances
Dyspepsia
Choosing and using dressings: a case-based quiz and demonstration
Working together in medicines' management

structure, presentation and style, demonstration of reflective practice and consideration of relevant scientific evidence and practice guidelines.

The course is accredited for pharmacists' continual professional development (the College of Pharmacy Practice) and the Post-Graduate Education Allowance (PGEA) for GPs. It has also been recognised as part of a module for the Queen Mary, University of London modular MSc in Primary Care.

METHODS OF COURSE EVALUATION

Feedback questionnaires were completed immediately after the taught sessions. The participants were asked to rate each session, on a scale of 1–5, in terms of: relevance; content and interest; and presentation and style. The majority sessions scored between 3–5 out of 5 for these ratings.

In their application forms, applicants specified why they wanted to do the course and what they hoped to do afterwards. In April 1999, a postal questionnaire was sent to participants who had completed the first four courses. This was 15 months after completion of the first and second courses and 3 months after completion of the third and fourth. The participants were asked what their objectives were for taking the course and to what degree these objectives had been achieved (not at all, partially or totally). Comments and suggestions were requested. In order to assess the effect of different aspects of the course a "relative effectiveness score" was obtained to measure to what extent each of the participants' objectives was achieved. This was obtained by giving a weight of zero, one, or two, respectively, for "not fulfilled", "part fulfilled" and "substantially fulfilled".

RESULTS AND DISCUSSION

One hundred people attended the first four courses, 44 pharmacists, 48 GPs, eight nurses. Overall, attendance was 91%, 498 assignments were submitted (83%) and 83 participants (83%) were awarded a certificate. Two participants are converting the certificate to an MSc module.

Participation Within the Course

Much discussion took place during the taught sessions. At the beginning of each course, this discussion was dominated by GPs, but later an

equal relationship was established as the pharmacists and nurses gained confidence. Several productive GP/pharmacist/nurse teams were formed.

In the 1998/1999 courses, we had several experienced nurses who found the programme highly relevant to their work and were active contributors to the sessions.

Many of the proprietor–pharmacists had to employ locums in order to attend the course, whereas most of the GPs, employee–pharmacists and nurses were able to obtain local cover for absence. Nevertheless, at least one of the nurses had to take holiday leave to attend the taught sessions.

Assignments

The standard of written assignments was variable. Some presentations were excellent, but a few of the delegates revealed weaknesses in writing skills that prevented them from presenting their observations clearly and coherently.

Follow up Questionnaire Results

The aims and objectives of the delegates on application for the course are summarised in Table II.

Completed postal questionnaires were received from 51/96 (53%) of the delegates surveyed, Community Pharmacists 27/44 (61%), GPs 19/44 (43%) and nurses 5/8 (63%). The questionnaire was analysed using the frequencies function of SPSS for Windows software (SPSS Inc., Chicago, IL). The data show that most of the respondents had taken the course to develop professionally and to satisfy a general interest. Generally these two aims had been fulfilled for all three professional groups (effectiveness score = 1.6 and 1.7, respectively). Only a minority of the respondents wished to become educators, to take a higher degree, or to do research.

All the pharmacists and nurses reported taking the course to develop working relationships with other primary care professionals; this seemed to be less important to the GPs. The course was generally successful in achieving this objective (effectiveness score = 1.3). The community pharmacists were keen to expand their role and to provide support and advice on medicines use; these objectives were generally achieved (effectiveness score = 1.4 and 1.2). Many pharmacists were also interested in working with local primary care organisations, participating in medicines/prescribing reviews, improving medicines' use in nursing homes and developing formularies. These were not objectives for most of the GPs and nurses, and the course was only partly successful in achieving them (effectiveness scores = 1.0, 0.8, 1.0, and 0.8).

The majority of GPs and nurses wished to achieve greater cost-effectiveness in prescribing, whereas the pharmacists were more concerned with reducing drug costs. The course only partially fulfilled these aims (effectiveness score = 1.0, 0.9).

Many of the delegates wished to develop expertise in the use of drug information resources, to audit practice, to develop evidence based practice and to develop protocols for repeat prescribing. The course included specific homework assignments to teach these objectives and was generally effective in achieving them (effectiveness score = 1.2, 1.4, 1.2 and 1.4, respectively).

Analysis of Comments

In general the course was well received, comments from participants included:

- "In my opinion the course fully met its aims and objectives."
- "This course has reached my expectations."
- "…focused and relevant"
- "…challenging but not threatening"

TABLE II Follow up questionnaire: aims and objectives of the participants and the effectiveness of the course in fulfilling them

Aim and objective	Percentage with this aim/objective			Degree to which aim/objective fulfilled (all respondents)			Mean effectiveness score (B+2C)/(A+B+C)		
	Pharmacists ($n = 27$)	GPs ($n = 19$)	Nurses ($n = 5$)	Number not fulfilled (A)	Number part fulfilled (B)	Number substantially fulfilled (C)	All respondents	Pharmacists	GPs
To satisfy a general interest	85	79	60	0	13	28	1.7	1.7	1.7
To develop professionally	96	84	100	1	18	28	1.6	1.6	1.6
To develop working relationships with primary care colleagues	100	68	100	9	14	22	1.3	1.1	1.5
To achieve more cost effective prescribing	37	74	60	5	16	6	1.0	0.8	1.1
To examine critically/audit my present practice	56	74	80	2	15	16	1.4	1.4	1.5
To update my knowledge of pharmacology	70	63	100	2	24	10	1.2	1.0	1.4
To develop evidence based practice	70	42	80	2	20	9	1.2	1.2	1.4
To develop expertise in the use of drug information resources and technology	81	63	80	4	22	12	1.2	1.2	1.3
To learn more about misuse of medicines	44	32	40	2	14	4	1.1	1.1	1.0
To learn more about organisational aspects of medicines management	48	42	0	4	13	4	1.0	0.8	1.4
To improve chronic disease management	59	53	60	1	21	7	1.2	1.2	1.2
To establish clinical protocols/guidelines	52	47	80	1	19	7	1.2	1.1	1.3
To develop formularies	48	21	0	5	10	2	0.8	0.7	*
To be a source of information for others	67	26	60	1	15	10	1.3	1.3	*
To do research	22	11	20	2	5	2	1.0	0.8	1.0
To do a higher degree or diploma	15	5	20	1	3	2	1.2	*	*
To become a trainer/local educator	11	11	0	3	2	0	0.4	*	*
To participate in medicine and prescribing reviews	70	16	0	8	10	4	0.8	0.8	0.7
To reduce drug costs	48	16	0	4	10	2	0.9	0.8	1.3
To provide support and advice on medicines' use	74	16	20	1	17	6	1.2	1.2	1.3
To work with my local Primary Care Group	59	16	40	5	11	5	1.0	0.9	1.0
To develop protocols for repeat prescribing	59	53	60	4	10	15	1.4	1.3	1.6
To improve the use of medicines in nursing homes	26	5	0	2	4	2	1.0	0.9	*
To expand the role of community pharmacy	78	26	0	2	14	10	1.3	1.4	*
To promote nurse prescribing locally	4	5	80	2	2	2	1.0	*	*

*Insufficient number of responses to give a meaningful score. The number of completed questionnaires from nurses was insufficient to compute meaningful effectiveness scores.

The delegates appreciated the multi-professional work and comments included:

- "Working with a pharmacist has taught me a lot." (GP)
- "I will now be more pushy in getting to know more local GPs." (Community Pharmacist)
- "It has been invaluable to have time to reflect on my work and relationship with the GP surgery."(Community Pharmacist)

Best aspect:

- "Greater understanding of the value of a pharmacist and how district nurses and pharmacists can work together."(GP)
- "…ample opportunity for working closer with colleagues."
- "I gained a better understanding of views, approaches and opinions of GPs and nurses."(Community Pharmacist)

Worst aspect:

- "Some topics were too intensive for general practice, e.g. psychiatric drugs".
- "Pain management".

Some delegates found the assignments time consuming and difficult:

- "There was a lot to fit in the time."
- "…would have liked to have spent more time researching the assignments."
- "The assignment on finding and interpreting information was difficult but revealing."
- "…marking standard was very tough."

However, the majority of the participants felt the assignments were worthwhile, particularly when they were able to work on them with other local colleagues. Comments included:

- "…very interesting assignments… relevant to contemporary topics…thinking was compulsory."
- "Assignments took several hours of work each—obtaining the information, reading and then writing it up. They made me review items that either I did automatically or had not done before."
- "The medicines log assignment was useful and something I hope to continue when time allows."
- "Found them useful and will try and build on them to bring about change in my practice."

A number of delegates said that the course had influenced their thinking and/or practice:

- "…improved organisation of repeat prescription"
- "…better choice of analgesics for headache"
- "…a programme to increase the proportion of generic prescriptions"
- "I have started to think in a more analytical way."
- "We are instituting benzodiazepine reduction successfully."
- "We are initiating a programme of ischaemic heart disease sufferer identification/education re aspirin."
- "I'm still doing some work with a pharmacist. I am now involved with Primary Care Group prescribing."
- "I am developing a role in the Asthma Clinic and in Repeat Prescribing reviews".
- "I will be joining a Primary Care Group prescribing sub-committee and hope to use my experience in a more effective way."
- "PACT (Prescription) analysis has been very beneficial and we have reduced the overall drug budget……
- We hope to continue this to allow for future increases in prescribing of statins, ace inhibitors, etc."

Suggestions for modifying the course included:

A wish for more pre-assignment preparation,

- "In some cases some appropriate teaching pre assignment might have helped."
- "…more guidance on assignments."
- "…add a session on statistics"

- "Internet was difficult—sessions beforehand please."

More emphasis on cost benefit analysis and evidence based medicine,

- "Evidence Based Medicine—the maths and statistics should have been explained more clearly."
- "…more analysis of cost/benefit in some areas, e.g. Coronary Heart Disease."

More depth in the course,

- "…needs depth to match others of Diploma/MSc standard"
- "I would have liked one assignment to have been a follow on from a previous assignment to encourage us to go into more depth."

Assistance in obtaining protected time for study,

- "Pharmacists have difficulties in arranging locums…… perhaps they need some assistance getting away from their posts."
- "No time—I could have got more out of it if I had had more time."

Post-course follow up,

- "I think it would be useful for GP/Community Pharmacist collaborative projects to continue after completion of the course."

Observations on the Course Assignments

The course assignments formed an important part of the course and it was gratifying that the level of participation in the assignments was high. A number of observations may be made from the assignments. Community pharmacists, GPs and nurses can benefit from training in medicines audit and the use of PACT (Prescription Analysis and Cost) data with other practice prescribing information. GP repeat prescribing systems are generally poorly designed and controlled and community pharmacists may have a role in monitoring such systems. It was also noted that personnel working in primary care might make more use of research evidence in reaching therapeutic decisions if evidence based healthcare information resources were more readily available and they had training in using them. Finally, some participants would benefit from written communications skills training.

Follow-up

Following the course, we have been stimulated to organise some one-off workshops in repeat prescribing and antibiotic use; these have proved popular. After the course, several participants expressed an interest in doing the modular MSc in Primary Care and others wished to collaborate in research.

CONCLUSIONS AND RECOMMENDATIONS

The interest in this course shows that medicine management issues are high on the agenda for many community pharmacists, general practitioners and senior primary care nurses and that they can benefit from being educated together in an active-learning environment.

There appears to be a demand for educational courses of intermediate length and difficulty within primary health care that allow professionals a valued opportunity to undertake a challenging educational programme that has direct relevance to their practice.

This course was effective in enhancing professional development of the individual delegates, in promoting inter-professional networking and expanding the role of pharmacists. The course was successful in helping delegates to make use of drug information resources and to develop protocols for repeat prescribing. It was less successful in providing specific skills such as those required for

participation in prescribing reviews, improving medicines' use in nursing homes, and developing formularies.

Therapeutics training in primary care needs to include clinical audit, prescription analysis, consideration of prescribing/dispensing procedures such as repeat prescribing systems and education in the techniques of evidence based healthcare. There was increased interest in the course when course fees and/or locum expenses were paid. For many primary care contractors working alone, a major disincentive to continuing professional development is finding, and paying for, a locum. Schemes such as the London Implementation Zone Educational Incentives programme (Carter *et al.*, 1998) and the Workplace Incentives programme have helped to provide protected time for GPs, but these have now finished. Appropriate funding for locum cover would allow more professionals to attend such courses.

The implications of "dependent prescriber" status, recommended by the Crown Committee (Department of Health, 1999) means that there is a strong case for extending such therapeutics training to experienced primary care nurses. The successful integration of practice nurses into the course recognised their current role in prescribing decisions and is one way of preparing them for a "dependant" prescriber role.

This model of post-graduate training has been very successful. A more widespread introduction of courses of this nature has the potential to facilitate inter-disciplinary work and to provide an entry point for community pharmacists who want to be involved in research or pursue higher qualifications. In addition emerging Primary Care Trusts will benefit from the development a cadre of professionals who can lead the development of rational prescribing.

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