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Pan Thames Conference Abstracts

Addressing the Continuing Professional Development Needs of Community Pharmacists

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Background: The emergence of clinical governance has placed a considerable burden on health care professionals to consider issues relating to the competence of practitioners. A programme of continuing professional development (CPD) ensures that the responsibility for maintaining skills and knowledge lies with the individual. The changing role of the pharmacist requires application of a range of new skills into daily practice. Whilst there are continuing education programmes available for community pharmacists to address these training needs, there is little practical support for CPD and other CPD processes such as peer review, reflection and documentation using professional portfolios. This research aims to describe and evaluate a process by which the professional development needs of community pharmacists (CPs) were identified and recommendations made as to how they might be addressed.

Objectives: To introduce CPs to the concept of reflective practice.

To design and implement a skills assessment programme for CPs.

To explore CPs attitudes to CPD.

Programme design and evaluation: Following an introductory seminar, 20 CPs were recruited onto the CPD programme and asked to complete a reflective logbook over a 4-week-period. Day 1 of the programme involved CPs' participation in seven skills evaluation workstations. In addition, three focus groups were conducted to explore their views about CPD together with a one-to-one interview with a facilitator to review their reflective logbooks and individual perceived training needs. Day 2 involved presentation of the global findings from the skills workstations followed by individual feedback to design their personal development plans. After completion of the two days participants were asked to rate the success of the programme by indicating their level of agreement with 12 statements using a 5-point Likert scale.

Results: Fourteen CPs completed the CPD programme. The key training needs identified were drug history taking and consultation skills, pharmaceutical care planning and general approach to problem-solving. Six themes were identified from the focus groups and these will form the basis of a structured questionnaire to quantitatively assess CPs' views about CPD. Evaluation of the programme indicated that participants felt that 5/12 aspects of CPD were fully addressed, 5/12 were mostly addressed and the other two were partially achieved. These statements were: "I now know how to practice CPD" (69% agreed) and "I do not believe CPD is achievable without external facilitation" (62% agreed).

Discussion: This novel approach helped community pharmacists to understand the concept of CPD and provided clarification on the function of CPD v CE. It also proved to be an effective framework for identifying their CPD needs whilst providing guidance and support for addressing their training needs. The process encouraged reflective practice, inspired confidence in the individuals' ability to undertake CPD and encouraged CPs to support each other through the CPD cycle. We are currently developing a system for ensuring the ongoing CPD facilitation for this cohort using action learning sets. More work is needed to evaluate the impact of this approach on CPs' every day practice and to explore methods for targeting a wider audience.

A Multi-disciplinary Approach to Teaching Clinical Skills to Undergraduate Pharmacy and Podiatry Students

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Background: The teaching of clinical skills to undergraduate pharmacy students at the University of Brighton was recognized as an area of excellence in a recent quality assurance agency (QAA) visit (March, 1999). For many years, students have been placed in hospital wards to practice their application of therapeutic knowledge, pharmaceutical care planning and drug-history taking. This joint placement pilot project aimed to integrate clinical skills teaching for pharmacy and podiatry students.

Delivery of the programme: Working in groups of six, 48 third year MPharm students attended an afternoon out-patient podiatry clinic at Leaf Hospital, Eastbourne between March and May 2001. Each pharmacy student worked with a podiatry student to ascertain a full drug history from at least one patient attending the clinic for podiatry treatment. Based on this and other information gathered from the podiatry noted, pharmacy students constructed a pharmaceutical care plan for each patient. Podiatry and pharmacy students jointly presented the case to 2 tutors and 10 other students during a seminar. The tutors provided clarity on issues relating to drug therapy and ensured that the rationale for prescribing was fully explained by the student or tutor. All care plans were submitted for assessment.

Evaluation of programme: Students' confidence in carrying out a list of 10 clinically related activities was assessed using a 4-point rating scale (4: very confident; 3: moderately confident; 2: little confidence; 1: no confidence). Pharmacy students' satisfaction with the teaching programme was also assessed based on 11 aspects using a 5-point Likert scale (5: strongly agree; 4: agree; 3: uncertain; 2: disagree; 1: strongly disagree).

Results: Podiatry students' confidence in undertaking various clinical activities was higher than for pharmacy students before delivery of the teaching programme. Students' overall confidence increased significantly after the clinic visit ($t = -3.92$, $p < 0.01$). Pharmacy students showed an increase in confidence for each individual activity except for "critical evaluation of disease management". For six of the clinical skills, pharmacy students confidence scores increased significantly. Podiatry students' confidence increased for four activities, but decreased for three (i.e. "identifying drug related problems, assessing patients" compliance and understanding the pharmacological basis of disease management). Students rated that they were highly satisfied with the joint training programme (>95% with agreement), but disagreed that "the travel information provided was helpful" (39% with agreement).

Discussion: This joint teaching programme provided a useful framework for teaching clinical skills in the community setting and improved pharmacy students' confidence in undertaking key clinical skills necessary for the provision of pharmaceutical care. Furthermore, it encouraged multi-professional teamwork in the clinical setting, allowing a greater understanding of each other's roles. For example, the decrease in podiatry students' confidence may have been due to an increased awareness of their limitations in dealing with medication related issues. This pilot study shows that inter-faculty shared learning can be an effective learning and teaching strategy for undergraduate healthcare students whilst helping to meet the needs of future employers.

An Isomeric Model of Pharmacy Education at a London Teaching Hospital

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Background: Recent work highlighted that junior grade pharmacists have been shown to be the least satisfied with respect to job career and other related aspects of work (Rajah *et al.*, 2001). This work was carried out on pharmacists and it is envisaged that a similar situation would exist with junior pharmacy technicians. A recommendation from this work was that they should be supported and trained effectively. This paper illustrates the use of a model for in-service and local training of junior pharmacists and its application to junior pharmacy technicians within a London Teaching Hospital.

Design: Newly qualified pharmacists and technicians all begin with a foundation rotational programme through various key departments. For pharmacists at Guy's and St Thomas', this is known as the Structured Training And Experience For Pharmacists (STEP) programme and is a locally run initiative by South East London Education Consortium (SELECT). The STEP programme is a 3-year-programme incorporating an initial 18-month rotational programme after which they undergo three 6-month electives in specialist areas in SELECT hospitals during which they are recommended to undertake additional postgraduate studies.

For pharmacy technicians, the STEP programme is mirrored in-house by a 3-year-programme of experience. There is an initial two-year cross-site rotational programme in which technicians spend 3 months in each area. An additional third year of experience may be undertaken in a specialist area to further develop skills and knowledge.

Discussion: Both groups of staff are encouraged to participate in self-development modules, examples being the Brighton Applied Therapeutics Packages for pharmacists and the London Region Technician Self-Development Modules. It is anticipated that successful completion of parts of the programme lead to career progression and in addition that they have the potential to enhance job satisfaction of pharmacists and technicians leading to their retention both locally and in the Trust.

The structured training programmes provides clear and flexible career pathways for staff development. This approach is reflected in several national guidelines publications such as the NHS plan (Department of Health, 2000a) and the Department of Health's Consultation Document on the Review of Workforce Planning (Department of Health, 2000b). The isomeric model described above recognizes and reflects the changing ways in which staff will wish and need to work in the future.

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A Computer Aided (CAL) Program for Case History Taking: A Validation of a Case Study Form

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Background: Computer Aided learning Programmes (CAL) are quite widely used in both medical and pharmacy teaching in order to supplement the undergraduate curriculum (McKenzie *et al.*, 1977; Anonymous, 1984; Boh *et al.*, 1987). Clinical pharmacy teaching requires that students have some direct contact with patients, usually in a hospital environment, to develop case history taking skills and gain a better insight into the patient's condition and drug management. The application of CAL in this area has been limited (Bruskiewitz *et al.*, 1988; Hurst *et al.*, 1988), but more recent developments in multimedia technology can allow for a realistic computer simulation of a patient interview. A CAL program was therefore developed using encoded and compressed video sequences from real patient interviews. The student can interface with the system by typing questions which are "answered" by the patient through a short video sequence. In this way, a student can build the entire case histories from a bank of nine patients so far included in the system. In order to demonstrate the potential benefits of the system it should be possible to examine and score the case histories that have been taken on a standardized report form, which has also been developed as part of this study. This abstract describes a validation of the report form and the use of the programme by a cohort of hospital pharmacists.

Methods: Twenty-one hospital pharmacists in the London area were asked to complete the CAL programme on the same case, concerning an elderly patient with diabetes. The pharmacists included those of the following grades: pre-registered pharmacists (8); certificate pharmacists (6); senior pharmacists (7). Each pharmacist then filled out a standard report form based on information gained from the CAL programme, which was marked according to a previously validated scoring system.

Results: (a) Usability: Pharmacists did not describe any difficulties using the case presentation form. They agreed that a case presentation form was an appropriate assessment tool for case history taking via CAL program. (b) Reproducibility: Pharmacists with the same levels of experience did not show statistically significant different scores, indicating that the method of assessment would be a good indication of general clinical competence. (d) Sensitivity: As expected the pre-registration pharmacists had significantly worse scores (59%, SD 6.8, t-test $p < 0.05$) than the certificate (74%, SD 4.7) pharmacists or senior pharmacists or senior pharmacists (66%, SD 8.8) which would validate the sensitivity of the assessment form. It is surprising that the senior pharmacists scored lower than the certificate pharmacists.

Conclusion: The case presentation form was found to be both usable and reproducible in assessing case histories delivered through the CAL programme. Whilst it is sensitive enough to distinguish between inexperienced and experienced pharmacists, it may be less sensitive in distinguishing between those with some further postgraduate training. The tool will now be used to compare CAL history taking to that taken from a real interview.

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An Evaluation of Pharmacist Recommendations on Patient Outcomes in a CAPD Clinic

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Background: Many UK renal units have specialist pharmacist input, however pharmacist input in clinics has not been widely assessed. Patients on renal replacement therapy (RRT) have complex drug regiments and a high incidence of drug related problems (DRPs) (Harchowal, 1997). Pharmacist intervention in DRPs may improve patient outcome.

Aim: To evaluate DRPs in a CAPD clinic and the clinical outcomes of a specialist pharmacists' recommendations.

Method: CAPD patients were seen in a multidisciplinary review clinic comprising consultant nephrologist, registrar, renal pharmacist, renal dietician and CAPD nurses. Clinic records for 41 patients, pharmacists' recommendations and consultant and registrar acceptance were reviewed. Objective clinical data (e.g. BP, Hb, Ca/PO_4, PTH) were collected to assess outcomes.

Results: A total of 41 patients were seen in 51 clinic appointments, median age 55, 44% male. Patients received a median of nine drugs (range 5–19). Of drug histories documented, 89% were inaccurate. Pharmacists made 2.12 recommendations per patient (a total of 87). A total of 74 (or 85%) of these were accepted. The most common recommendations were initiation or increase in therapy (44% or 38 cases), update inaccurate drug history (22% or 19 cases) and stop or reduce therapy (13% or 11 cases). Clinical outcomes were available for 41 patients, 40/60 (60%) clinical parameters improved after pharmacists recommendations. Recommendations not accepted included increasing antihypertensive medication (four occasions). In two cases, the physician felt hypertension was related to fluid overload. Of 10 recommendations to increase phosphate binders where outcome was known nine patients showed improvement in phosphate levels.

Conclusion: CAPD patients have multiple drugs and many DRPs, requiring continual review of therapy. A high proportion of pharmacist recommendations were accepted. Specialist pharmacist's input improves patient outcomes by ensuring optimal therapy and accurate medication documentation.

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Recruitment and Retention Initiatives and Competence Based Training for Junior Pharmacists

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Background: Poor recruitment and retention within the hospital pharmacy sector has reduced the development of, and begins to threaten, existing pharmacy services nationally. An increase in vacancy rates has been seen across the UK in recent years and this situation has been exacerbated by a number of factors including length of the degree course and dissatisfaction with training provided. The Chelsea and Westminster NHS Trust operates a 24-hour Pharmacy Service via a residency scheme. A variety of initiatives were developed to resolve the issue of recruitment and retention. These included changes in on-call shift patterns, increased numbers of resident pharmacists and senior pharmacist back up.

Competence based training: (a) Rationale: The pre-registration training model of competence based training led to the development of performance criteria to be covered in each junior pharmacist rotation. These cover the knowledge, skills and attitudes expected in practice. Objectives for the rotational training programme provide a structure for the scheme. (b) Detail: Junior pharmacists' rotations were extended from 3 to 4 months. Each rotation is defined as a "unit of competence", contains elements, and is managed by a section head. Specific wards are attached and managed by a ward tutor. The junior pharmacist is responsible for collecting evidence to demonstrate achievement of performance criteria.

Assessment: Assessment is on going with formal feedback/appraisal at 8 and 16 weeks. Ward tutors feed into this process informally and by the use of a tool to objectively measure ward pharmacy performance. A junior pharmacist mentor conducts appraisals every two rotations. Appraisals discuss portfolios of evidence compiled by the junior pharmacist. An Objective Structured Clinical Examination (OSCE) is held once a year. A viva examination collates all assessments to evaluate whether the junior pharmacist is eligible for extension from B to B + or B + to C grade. Satisfactory portfolios, appraisals, OSCEs and vivas are required.

Experience to date: Performance criteria were written and arrangements were in place for the August 2000 intake of junior pharmacists. Appraisal documentation was adapted including pre- and post-appraisal questionnaires. One cycle of OSCEs were validated and conducted, leading to the award of one set of grade extensions. Recruitment potential has increased with over 80 applicants for junior pharmacist posts compared with a previous inability to recruit. Retention also improved with three junior pharmacists in post after 26 months compared with a previous average of 6 months in post.

Conclusion: Recruitment and retention has improved with the implementation of a structured competence based training programme linked with grade extension. Future work will include updating and evolution of this scheme, improved monitoring of ward pharmacy standards, and development of a similar scheme for technical staff.

"MiCAL"—The Development of a Computer Aided Learning Programme for Basic Grade Pharmacists Working in Medicines Information in the UK

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Introduction: The development of a computer learning programme for basic grades working in Medicines Information (MI) is described. The package can be used autonomously by the user or act as the basis of a discussion forum with a colleague. MiCAL should be complementary to existing training and is not intended to supersede this.

Identification of training needs: Senior pharmacy managers and MI managers in London North Thames were asked independently of each other what training initiatives they felt were required in MI—the area of basic grade training in MI was identified. An electronic format was chosen and the University of Bath were approached to provide their expertise in the area of computer aided learning development and design.

Content development: The main focus for the learning on the MiCAL programme is simulated enquiries. This is supplemented with teaching activities which provide interactive exercises which compliment the UKMI training manual. Enquiries are based on real enquiries but modified to best highlight the learning objective for that case and to protect confidentiality. The example enquiries focus an all aspect of the enquiry answering process, i.e. problem identification, problem solving, questioning skills, documentation as well as the application of clinical knowledge and skills.

Piloting: The example enquiries and the teaching activities were piloted in MI centres in London, North and South Thames. These 14 sites provided comments on accuracy, usability and relevance.

Discussion: MiCAL consists of two sections. The teaching activity section consists of four units: An introduction to Medicines Information services; Ethical issues; Information sources; and searching the literature. The enquiry section contains 20 example enquiries which are designed to represent the varied nature of medicines information enquiries encountered. The development of the package has been collaborative in nature ensuring the package meets the training needs of a diverse group of situations.

Assessment and Prescribing for Inpatients Admitted for Alcohol-related Problems

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Background: Between 16 and 21% inpatients have a history of alcohol misuse or dependence (Canning *et al.*, 1999; John *et al.*, 1999). Acute alcohol withdrawal symptoms are non-specific and may be missed. If left untreated, alcohol withdrawal may be fatal or result in irreversible neurological deficit. Anecdotal reports of sub-optimal prescribing locally have included omission of thiamine and poor control of withdrawal symptoms. In the absence of national guidelines or consensus on prescribing in alcohol misuse (Hope *et al.*, 1999), local guidance was developed. This work aimed to assess the appropriateness of vitamin and sedative prescribing for patients suspected of alcohol misuse against local guidelines.

Method: A pharmacist collected data in acute hospital over 3 weeks. Adult inpatients on medical and surgical wards were eligible, intensive care units were excluded. Patients suspected of a high alcohol intake were identified by the nurse in charge, this was confirmed from patients' clinical record. Prescribing and clinical data were collected from clinical notes, electronic records and hard copy TTO (discharge drugs). Where data were missing, sources were re-examined 3 days later. Data collected were compared to local guidelines which require:

1. Use of standard questionnaires to categorize alcohol consumption (from hazardous to dependent.)
2. Blood and liver function tests (LFTs) for all patients.
3. Intravenous vitamins for all inpatients suspected of alcohol misuse.
4. Vitamin B compound (strong) tablets at discharge.
5. Chlordiazepoxide as required over 24 h followed by a reducing dose for withdrawal symptoms.
6. Avoid chlormethiazole.
7. Documentation of results mean corpuscular volume (MCV) and gamma glutamyl transferase (GGT) on the discharge note (TTO).

Results: Data were obtained for 47 inpatients with high alcohol use, 32 (74%) were male, median age 48 years. Median duration of stay was 6 days. The majority (31, 66%) were in medical wards.

Alcohol intake was not documented for 12 (25%) patients and was not quantified for a further four (9%) patients. The remainder admitted consuming a median of 84 units of alcohol per week (range 35–280 units). Neither use of questionnaires nor categorization of consumption were recorded in patients' notes (0%). The LFTs were available in patients' notes within 2 days for 32 (68%) patients, but seven (5%) did not have any LFTs performed at all. Median GGT on admission was 93 IU (7–1069).

Almost half (23/47, 49%) inpatients were prescribed IV vitamins, median 2 days (0.5–6 days). Fewer surgical patients received IV vitamins than medical patients (2/16, 13%: 21/31, 68%; chi^2 $p < 0.01$). Fourteen (30%) patients did not receive any oral or IV vitamins. Two thirds (31/47, 66%) of inpatients received chlordiazepoxide in various regimens but it was not possible to objectively assess the appropriateness of sedative regimens as the severity of withdrawal was incompletely documented. Chlormethiazole was not used.

Of 27 (57%) patients for whom TTOs were dispensed, half (14/27, 52%) received Vitamin B compound (strong) tablets or thiamine. Hard copies of 11 TTOs were identified and legible.

None (0%) had documented MCV or GGT on admission.

Discussion and conclusion: Deficiencies in care from start to end of hospital stay were identified. In view of the risks of permanent neurological damage in patients with a high alcohol intake, pharmacy staff should identify inpatients admitted for alcohol withdrawal and recommend IV vitamins. Where necessary, a short course of a long-acting benzodiazepine should also be recommended.

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A Pharmacist's Tool to Assess Appropriate Osteoporosis Prescribing

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Background: Osteoporosis is a major health problem in the UK elderly population, causing more than 150,000 fractures annually with estimated costs of £742 million (Compston *et al.*, 1995). Important risk factors for osteoporosis include female sex, post-menopausal previous fractures since age 50 and older age (Ribot *et al.*, 1992; Cummings *et al.*, 1995). Specific drugs also increase hip fracture risk (Cummings *et al.*, 1995). Clinical data are still inadequate to accurately predict osteoporosis, thus bone density measurement is required (Slemenda *et al.*, 1990). Recent Royal College of Physicians guidelines highlight the importance of screening and appropriate prescribing of bisphosphonates and calcium plus strong vitamin D (CaD). Our clinical impression was that patients received suboptimal therapy.

Aim: This pilot study aimed to develop a tool to assess the appropriateness of osteoporosis prescribing for patients admitted with a low trauma fracture.

Method: Osteoporosis risk factors, indications and contraindications for therapy were incorporated into a form. Patients admitted for low trauma fractures were identified from ward lists. Risk factors, bone density assessment, and drugs to treat osteoporosis were collected from medical notes and drug charts. Benzodiazepines and systemic steroids were also noted.

Results: Of 42 surgical inpatients screened, 15 had a low trauma fracture. Median age was 73 (60–97 years), 12 (80%) were female and patients had been in hospital for a median of 18 days (range 1–63 days). Patients had a median of five osteoporosis risk factors (range 1–7). Nine (60%) had previous low trauma fractures. Two patients took >7.5 mg prednisolone daily, one was prescribed diazepam. Two (13%) patients were receiving CaD but one was prescribed calcium alone inappropriately. Osteoporosis had been considered in only two (13%) patients, of whom one had a bone density assessment ($T = -3.8$)

Discussion and conclusion: A simple-to-use tool for ward pharmacists was developed. Pilot data suggest under-assessment and under-prescribing for patients presenting with a low trauma fracture, despite the presence of multiple risk factors. Neither assessment of bone density nor initiation of therapy had been performed for patients who had been in hospital for up to 9 weeks. Osteoporosis risk factors are not usually recorded in end of bed data thus it was not possible for pharmacists to identify patients at risk of osteoporosis when screening drug charts.

The effect of pharmacists' intervention on prescribing quality will be addressed in the second phase of this work.

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Medication Management Accredited Scheme for Pharmacy Technicians

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Background: The NHS Plan states that we should be aiming to provide well delivered patient focused services by appropriately trained staff. Key elements of this are re-engineering services and using patient partnerships for medicines management. The Future of Pharmacy makes mention of the role that pharmacy technicians should play in medicines management such as use of Patients Own Medicines, one stop dispensing, etc. South East (South Coast) Region previously offered other courses to accredit pharmacy technicians to take on new roles, e.g. final check of dispensed items and counselling of patients. It was therefore a natural extension to develop medication management accreditation offering standardized training and objective assessment to produce pharmacy technicians competent to undertake components of the medicine management process. Feedback from other study days had also identified this as a priority training need for hospital pharmacy technicians.

Learning outcomes for the course were:

1. To demonstrate effective communication skills
2. To describe principal functions of the hospital ward and ways of collaborative team working
3. To demonstrate effective referral to other health care professionals
4. To elicit, retrieve and document a patient's full medication history using a full range of sources
5. To judge suitability of patients own medication for use and to ensure complete supply
6. To describe the process and structures for patient self-administration schemes
7. To explain the pharmaceutical discharge planning process and links with primary care
8. To discuss the practice activity and assessment criteria

The teaching and learning strategy consisted of: Two training days and practice activities supported by a work based tutor.

The assessment methodology consisted of: OSCE with 5 stations. Portfolio of evidence and reflective practice with evidence of a record of a minimum: five medication history sessions; 10 patient own drugs assessment episodes; three completed medication discharge episodes; self-administration report; critical incident report; tutor's report

Progress: 20 students enrolled and attended the study days. Nine presented for OSCE, 10 postponed as they needed more time to gather the portfolio evidence and one left the service.

Future plans: Following the success of the course it will be repeated annually with exams every 6 months. A longer interval will be timetables between the taught course and the exam to provide more time for practice activities and completion of the portfolio.

An Accreditation Programme for the Pharmaceutical Assessment of Chemotherapy Prescriptions

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Background and aims: Pharmaceutical assessment of chemotherapy prescriptions is an essential part of the clinical risk management process. Clinical governance focuses on the quality of clinical practice including taking responsibility for decisions made (Department of Health, 1999). A pharmacist cannot take responsibility for the pharmaceutical assessment of chemotherapy prescriptions without knowledge of the protocols

used and relevant patient and drug factors involved. An assessment of pharmacist knowledge is required as part of the accreditation of competence in the pharmaceutical assessment of chemotherapy prescriptions.

Method: A competency based training and accreditation programme has been developed to ensure that pharmacists are capable of providing high quality clinical care (Daynes and Maclean, 1999). A detailed procedure is in place for the pharmaceutical assessment of chemotherapy prescriptions. Before starting on the programme, pharmacists have to complete the basic technical competencies within the Chemotherapy Preparative Service. The programme involves training on the wards, assessing prescriptions pharmaceutically with a double check, reviewing records of interventions made and recommended action, reading and one to one teaching. A pharmacist needs to have reached a defined standard of accuracy whilst checking a standard range and number of prescriptions before taking the accreditation exam.

Accreditation exam: The accreditation takes place in two stages—outpatients followed by in-patients and consists of a practice exam and an interview. The exam involves checking a set of dummy prescriptions, identifying problems and recommending action. The prescriptions are based on common protocols and contain problems routinely encountered. The interview is used to assess the essential underpinning knowledge by asking a standard series of questions about each prescription. The questions cover side effects, supportive therapy, dose reductions, administration, stability issues and appropriate referral. A marking scheme is used which classifies any errors made in the exam as "minor", "moderate" or "major". The pharmacist has to achieve a defined standard before being accredited as competent.

Conclusion: This systems aims to set standards for pharmaceutical assessment of chemotherapy, thus ensuring the quality of service and clinical practice delivered by pharmacists.

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Joint Clerking by Pharmacy and Medical Students

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Background: Most Schools now arrange hospital bedside clinical teaching sessions, giving students insight into disease and improving communication with clinicians and patients. Pharmacy students also need to be familiar with clerking to understand how diagnoses are derived and treatment is planned. Further, inter-professional education among health care students is regarded as a desirable method of improving relations in subsequent clinical practice (Deinst and Byl, 1981; Jacobs, 1987). Joint clerking sessions between pharmacy and medical students have been successfully piloted at King's College (Greene *et al.*, 1996). Following their subsequent merger, the combined medical schools of Guy's King's College and St. Thomas' hospitals requested a more extensive programme, involving all 90 final year pharmacy and all 360 third year medical students. We report our experience of this initiative.

Method: The original arrangement involved a half-day session, with each of six pairs of students assigned a case. They were given 1.5 h to clerk the patient and prepare a joint presentation on the history and therapeutic targets and a critique of how current management was meeting the targets. Medical students led on medical history taking and reporting; pharmacy students took the medication history (also using charts and notes). For the enlarged programme, the aims were unchanged but the organization had to be simplified. Each pharmacy student was assigned four medics and each medic had to find a specified case. The pharmacy student then arranged a session with each medic and patient. Both groups received written guidelines and an oral presentation. The medical chiefs involved were informed via curriculum committees and direct mailing.

Results: Student opinion on the sessions was obtained via post-course questionnaire. In our original study there was a high level of agreement, among both medical and pharmacy student groups, that the sessions were useful and interdisciplinary co-operation successful and shared equally. For the new programme only comments from pharmacy students (30) were available; (it is unclear whether the medical school has yet attempted a formal evaluation). Two trends were evident. The sessions were still found extremely useful. However, the co-operation of the medics was criticized, as were the contact arrangements. From the free text comments on the questionnaire and informal discussion with students, it appears the medical students made a lesser contribution and probably got less out of it. Some were criticized as being unenthusiastic, poorly motivated and arrogant.

Discussion: There are several reasons for these disappointing results. Originally clinical tutors had been always available, there was pressure to produce a report immediately and there was immediate feedback; the clinicians involved were committed. Now, the larger numbers have forced responsibility for arrangements onto the students. Moreover, because medical students in all firms were involved, the attitude of the medical chiefs, absorbed by their students, was crucial. Unfortunately many appeared to resent the medical school imposing yet more teaching, and a negative attitude to therapeutics (as a separate discipline), and possibly even to pharmacy, was evident. At curriculum meetings, attended by some medical students, it was clear these senior clinicians had not been properly apprised of the initiative; the medical students believed the pharmacy students had little to offer and were keen only on obtaining material for their pharmaceutical care plan write-ups.

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Data Collection of Major Interventions at an Oncology Centre

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Introduction: In 1998, in preparation for the application of BSI ISO9001 quality management system for chemotherapy, a pilot of Non Conformance Reporting (NCR) for chemotherapy errors was undertaken. NCR was defined as "the non-fulfilment of specified requirements", i.e. where an error in prescribing or a defect in the system may result in compromised treatment, a delay to patient care on extra work for staff groups. A major NCR was defined for the purpose of the ISO9001 project as an error in prescribing which would have resulted in a >25% difference in the dose of chemotherapy. This was based on a similar standard from ISO9001 radiotherapy services. London Regional Pharmacy Services have recently issued standards for the provision of clinical pharmacy services. The pharmacy services at the Royal Marsden NHS Trust were audited against these standards. A standard the Trust did not meet was a system for identifying and recording all major interventions. It was therefore decided to instigate a recording system for major interventions similar to the NCR system piloted in 1998.

Method: The NCR pilot of recording errors had collected data on all chemotherapy related interventions, and definitions of minor, moderate and major were specified. To enable comparison between our baseline data from 1998 and data collected prospectively, the same definition of "major" was used. This identifies errors that, if left undetected, may affect morbidity and mortality, increase hospital costs and may be a source of litigation. All major interventions (chemotherapy related and

non-chemotherapy related) were collected by pharmacy staff during a three-month period in 2001. At the end of this time period the interventions were analysed by two senior pharmacists and those which were classified as major, based on the above criteria, were included for analysis.

Results: In this three month period, a total of 39 interventions were recorded, of which 32 were classified as major according to the above criteria. 24 (75%) of these related to chemotherapy. The major interventions were presented at the symposium.

Discussion and conclusions: The number of chemotherapy related major interventions has risen from 9 in 1998 to 24 in 2001. The reason for this is unclear. Corrective action (such as the introduction of an Electronic Prescribing Medication Administration system, EPMA) has been or is in the process of being introduced to prevent or reduce prescribing errors. However, the introduction of the EPMA system may in itself create a different type of prescribing error, which is yet to be seen. Further prospective studies of major intervention data collection will be needed to assess this problem.

Improving Undergraduate Clinical Skills Through Patient Focused Education

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Background and objectives: "Pharmacy in the future: implementing the NHS plan" (Department of Health, 2000) sets out a challenging agenda for the pharmacy profession. The key emphasis is "the patient" around which the plan is designed. To work effectively as a pharmacist, it is vital to have clinical skills to identity and solve pharmaceutical care issues; undergraduates therefore need to learn and practice clinical skills. The objectives of this programme were to develop skills needed to take drug histories; monitor patients for effectiveness and adverse effects of drugs; educate patients about their medicines; identify pharmaceutical issues pertinent to a patient and be able to address those issues appropriately; and encourage students to assess and reflect upon their experience.

Design: All 112 fourth year undergraduates participated in the education programme. They visited one of five teaching hospitals in London where they worked in pairs and attended the hospital twice a week over a two-week period. Students were ward based and were asked to take at least two drug histories in every session, identify monitoring criteria or patients's drug therapy, educate one patient, and identify two patients for use in preparing patient profiles. All patients consented to the taking of drug histories by students. Students assessed each other on the various skills which they practiced and each pair of students were allocated a hospital pharmacist as a clinical tutor who facilitated the students independent learning and was required to assess the students; they were however expressly told not to teach students.

Feedback: Reflections from students' and clinical tutors' assessments confirmed that students improved various skills between the first and the last visit and acted professionally in their dealings with patients. Ninety-three students (83%) completed the evaluation from; 89% found the placements useful and enjoyable and 91% felt that the sessions enabled them to improve their communication skills. Fifty-five percent felt that they learnt to monitor patients and 75% felt that they improved their skills in educating patients. Many students felt that attending the hospital for two half days a week was inadequate when it came to monitoring patients; in most cases patients had been discharged by the time students cam back to the hospital. They recommended that future visits be over consecutive days for at least a week. Sixty-two percent felt that the clinical tutor helped facilitate their learning, and all students felt that they would have liked more commitment and support from the clinical tutors but also appreciated that the tutors are busy. Some students also wanted to accompany their clinical tutor so as to observe how they practised. Most students felt that these sessions should be run in the

fourth year but some students would have liked more visits in other years as well.

Discussion: Most clinical tutors felt that these sessions would help students to practice as future pharmacists. They recommended repeating these sessions for students next year; however, pharmacists felt that the sessions should be structured differently for next year. Some thought that having visits on consecutive days would be more beneficial for them and the students; others felt that students should spend more than four sessions at the hospital.

Summary: Clinical hospital placements are an ideal opportunity for students to learn and apply the clinical skills. It provides students with exposure to hospital patients, their illnesses, and an opportunity to monitor the progress of patients on medication. Previously students visited patients in the hospital for one half day to interview a patient as a group. This programme was therefore novel and enabled students to improve their clinical skills.

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Developing CPD in the Workplace: The Implementation of a Regional CPD Support Strategy

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Introduction: A First Class Service proposed a culture of lifelong learning in which Continuing Professional Development (CPD) programmes are used to identify and meet the learning needs of individual health professionals (Department of Health, 1998a). It defines CPD a "a process of lifelong learning for all individuals and teams which meets the needs of patients, delivers the health outcomes and healthcare priorities of the NHS, and which enables professionals to expand and fulfil their potential." A later Health Circular, "Continuing Professional Development: Quality in the new NHS" added that "CPD should be a partnership between the individual and the organization; its focus should be the delivery of high quality NHS services as well as meeting individual career aspirations and learning needs" and stated "By April 2000 the majority of health professional staff should have a personal development plan" (Department of Health, 1998b). Subsequent to this, informal discussions with senior staff in the London region in July 1999 showed that there were considerable misunderstandings around CPD and very little progress had been made on introducing CPD. There was concern about how to achieve NHS deadlines and anecdotal requests for help. Currently within pharmacy there is no co-ordinated approach to CPD. Organizations such as the College of Pharmacy Practice provide a structured framework for professional development for pharmacists, however, we needed to look more widely at NHS needs and cater for all the staff involved in providing a pharmacy service.

Method: Once the need was established we consulted widely to develop a strategy to support pharmacy staff. We set up a working group (jointly between the then North Thames and South Thames regions), which represented a cross section of service users. This group met initially in November 1999 and developed the strategic objectives and proposals outlined in Table I. The working group felt strongly that facilitation was a key factor in enabling the culture change required to move to reflective practice.

Results. Initial support activities: 107 pharmacists and technicians from 62 of 69 hospital trusts and 11 of 26 health authorities from both regions attended a two-day facilitator training course by June 2000. From this was developed a CPD training support pack for facilitators to use to help staff understand the main principles of CPD, guidance for implementation within departments and a portfolio suitable for use by all grades of staff. In addition, a successful bid to the Education and Training consortia for additional funding was made, and recruitment of a team of part-time CPD regional co-ordinators in August 2000 for 1 year. These pharmacists visit organizations and

TABLE I

Strategic objectives
- To increase understanding and awareness of CPD amongst pharmacists
- To facilitate a culture of life-long learning and reflective practice
- To encourage pharmacists to compile and maintain their own portfolio of CPD activity

Recommendations
- Promote CPD to pharmacy managers
- Identify a lead person (facilitator) in each hospital and health authority to promote CPD within the workplace, and provide support
- Provide guidance on ways in which CPD can be implemented within the workplace
- Provide training and support for the local facilitators
- Develop a training pack and marketing materials for use by the facilitators to train and motivate staff
- Pursue funding for new regional posts to support the facilitators to implement CPD

TABLE II

- A team of CPD regional co-ordinators to visit facilitators to encourage, motivate, help problem solve, share good practice
- Ongoing CPD facilitator training—40 facilitators trained since September 2000
- Regular CPD facilitator meetings to give opportunity to network, share experiences and meet ongoing development needs
- A focus on developing facilitation skills and confidence of facilitators in CPD facilitator meetings and during CPD regional co-ordinator visits
- Recent development of reflective practice support pack in response to needs identified by facilitators
- CPD regional co-ordinators soon to start onsite training of facilitators in several trusts where larger numbers of facilitators are required to effectively pump prime CPD

support the local facilitators.

Challenges: Dispelling misapprehension about what CPD really is and how it differs form continuing educations became important, as did the variable support form senior pharmacy managers for their local facilitators. In turn, motivating and maintaining the enthusiasm and momentum of facilitators who have considerable time pressures and do this role on top of the "day" job is a constant problem. Local facilitators perceive a lack of deadlines, which makes implementation difficult. The development of facilitation skills and confidence of the facilitators to proactively facilitate reflective practice and helping these facilitators to encourage reflection and reflective practice in individuals remains a challenge. Finally, there is a deficiency in individuals being able to assess personal competencies when developing personal development plans. Table IIshows the ongoing support activities.

Future: The CPD working group now to meet on a uniregional basis and continues to consider the ongoing support needs of pharmacy staff in the region. A full evaluation of the strategy over the next couple of months is planned to study the attitudes and commitment of individuals, the uptake and recording of CPD within departments and the value of CPD regional co-ordinators.

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Technician Self Development Programme—a Tool to Support Continuing Professional Development for Pharmacy Technicians

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Background: Recent developments in extending the roles of pharmacy technicians have been driven by a national shortage of pharmacists (Anon, 1999) and recognition that the skills and knowledge of pharmacy technicians have been left largely under utilized (Department of Health, 2000).

Design: With the role of pharmacy technicians becoming ever more diverse, their training and development needs are increasingly difficult to meet in a simple structured "study day" format. The Technician Self Development Programme (O'Loan *et al.*, 2000) was developed to meet these more complex and individualized needs. The programme is flexible, open to all qualified technicians and is divided into three stages. Stage 1 concentrates on consolidation of practice for newly qualified technicians. Stage 2 encompasses the management of self, workload, people and resources. Stage 3 of the programme consists of specialist options for technicians who are looking to formalize their role or gain their first specialist post. The emphasis of the programme is very much on "self-development". Each stage or option has a range of objectives and tasks, which can be fitted around, or into, workplace activity. Technicians are supported by in-house or regional study days, resources and information, in addition to a workplace facilitator. Once all tasks and objectives are completed and the paperwork signed by both the technician and their facilitator, a regional certificate is issued.

Feedback: A crucial process to support self-development is Continuing Professional Development (CPD) (Department of Health, 1999). This provides a planned approach to development that meets both individual and organizational needs. Prior to the introduction of the Technician Self Development Programme, it could be argued that the training, education and development of pharmacy technicians had been largely *ad hoc*, opportunistic and focused upon the short term. The programme sets out a framework for systematic development and the activities of pharmacy technicians undertaking the programme correspond much more closely with the CPD cycle of Reflection and Assessment, Planning, Implementation and Evaluation.

Summary: At present the Technician Self Development Programme provides guidance for judging ability in core areas where pharmacy technicians currently have, or are developing roles. It also identifies gaps in knowledge or skills and enables pharmacy technicians to plan their development in a systematic way, rather than on an *ad hoc* or opportunistic basis. Once pharmacy technicians have adopted the principles of self-development and CPD, they will then find it easier to apply these principles as their roles continue to develop beyond the present scope of the Technician Self Development Programme.

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A Pilot Study to Evaluate Clinical Competency in Junior Grade Pharmacy Practitioners

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Introduction: Competency has been defined as a quality or characteristic of a person related to effective or superior performance (Whidett and Hollyford, 2000). It is a concept recognized by pharmacy as a profession (Royal Pharmaceutical Society, 2000) and by the government (Department of Health, 2000) as a requirement for continued practice, however until recently there has been no valid method available to test it. Senior practitioners in secondary care acknowledged inconsistencies in the practice of clinical pharmacy by junior pharmacists, so developed a competency based assessment grid to facilitate the teaching and assessment of ward based activities. They produced a tool that listed those behaviours essential to effective performance in a format that could be tailored to individual trust or patient group requirements. The grid served as a set of standards against which the junior pharmacist could be judged. The aim of this research was to investigate the impact this competency based approach to training and assessment on junior pharmacists' fitness for purpose and satisfaction.

Method: A multi-method approach was adopted in order to evaluate the use of the grid in measuring the competence of junior pharmacists, the effect of the innovation on the recipients' satisfaction and the effect of the innovation as seen by the assessors. A longitudinal study assessed performance of B-grades in eight active sites and one control site (the control site was blinded with regard to the content of the grids). At baseline and 12 weeks later, assessors defined the clinical service provision "expected" and then assessed the pharmacist giving the "observed" competency. The observed and expected competency was compared to ascertain fitness for purpose. Simultaneously, a satisfaction survey was distributed to basic grades in active and control sites. One assessor from five of the eight sites was interviewed in order to find out the effect of the innovation with regard to ease of use, appropriateness of activities, assessment process and time involved.

Results: Over the 12 weeks, the active group showed a significant change in fitness for purpose in all competencies but one compared with no significant change in competency for the control group. Analysis of the questionnaires suggested there was no significant change in satisfaction over the 12-week study period for either the active or the control groups. Utilization of the girds to assess competence varied among the five sites interviewed. The effects of using the grid on the assessment process, development of clinical service specification and organizational effects varied from site to site. This highlights the flexibility of using the grids in diverse departments.

Discussion: Overall the results indicate that the competency assessment grids allow judgement of junior pharmacists performance compared pre-defined standards and the trend seems to be that awareness of the behaviours on which you are being assessed produces improved performance. However this is a small study and to consolidate these results, the grids need to be assessed in a larger population of junior pharmacists.

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Multidisciplinary Communication within Secondary Care: Learning Lessons for Training from Communication Failures

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Introduction: Effective communication is fundamental for ensuring clinical governance and professionalism throughout healthcare delivery in the NHS (Department of Health, 1998; 1999). The importance of communication between healthcare professionals regarding patient care, through record keeping and demonstrating professional accountability and responsibility is increasingly important. Previous work has shown that a lack of communication across the health care interface leads to problems between the supplies of prescribed medicines; improved communication at discharge can reduce clinically significant discrepancies (Duggan *et al.*, 1996; 1998). The aim of this study was to investigate and improve the transfer of patient based information between healthcare professionals (HCPs).

Encountered communication failures: There were difficulties in transferring information to the HCPs at all stages in the project, which further validated the aims of the project: to improve communication methods between healthcare professionals. The problems the researcher encountered when trying to conduct the project were, for example, there was nowhere on the ward where the researcher could access details about the HCPs covering that ward and who could be recruited to the study. The high rotation of staff on ward, with new faces every week and agency staff working during weekends, meant that the researcher had no way of knowing who they were or how to access them to tell them of the study and encourage participation.

Despite extensive training and instructions, the staff did not use the intervention as intended and there was no opportunity for the researcher to convene a group to remind them and train them. It was extremely difficult to get them to attend the necessary discussion and evaluation meetings, which may have been a failing in advertising the project or merely that they were too busy to participate. This, in itself is a finding and leads us to the question; how can we develop practice based on evidence when staff are too busy to take part in a research project that aims to provide evidence to improve practice?

Learning lessons for training from communication failures: This study highlights the many breakdowns in communication systems in secondary care. There are very few robust and efficient routes of information transfer, depending mainly on individual innovation rather than a systematic approach. Healthcare professionals need training and education in the importance of practice research and allocated time to participate in whatever capacity they desire. Until then it is difficult to deliver messages and thus implement new methods of practice. By improving the management of information, it will become more feasible to undertake research in practice, to generate evidence required changing practice and delivering clinical governance in the NHS.

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