

The Pharmacy Practice Research Trust



Medicines & People

Turning Knowledge Into Know-How

Annual Review 2005/06

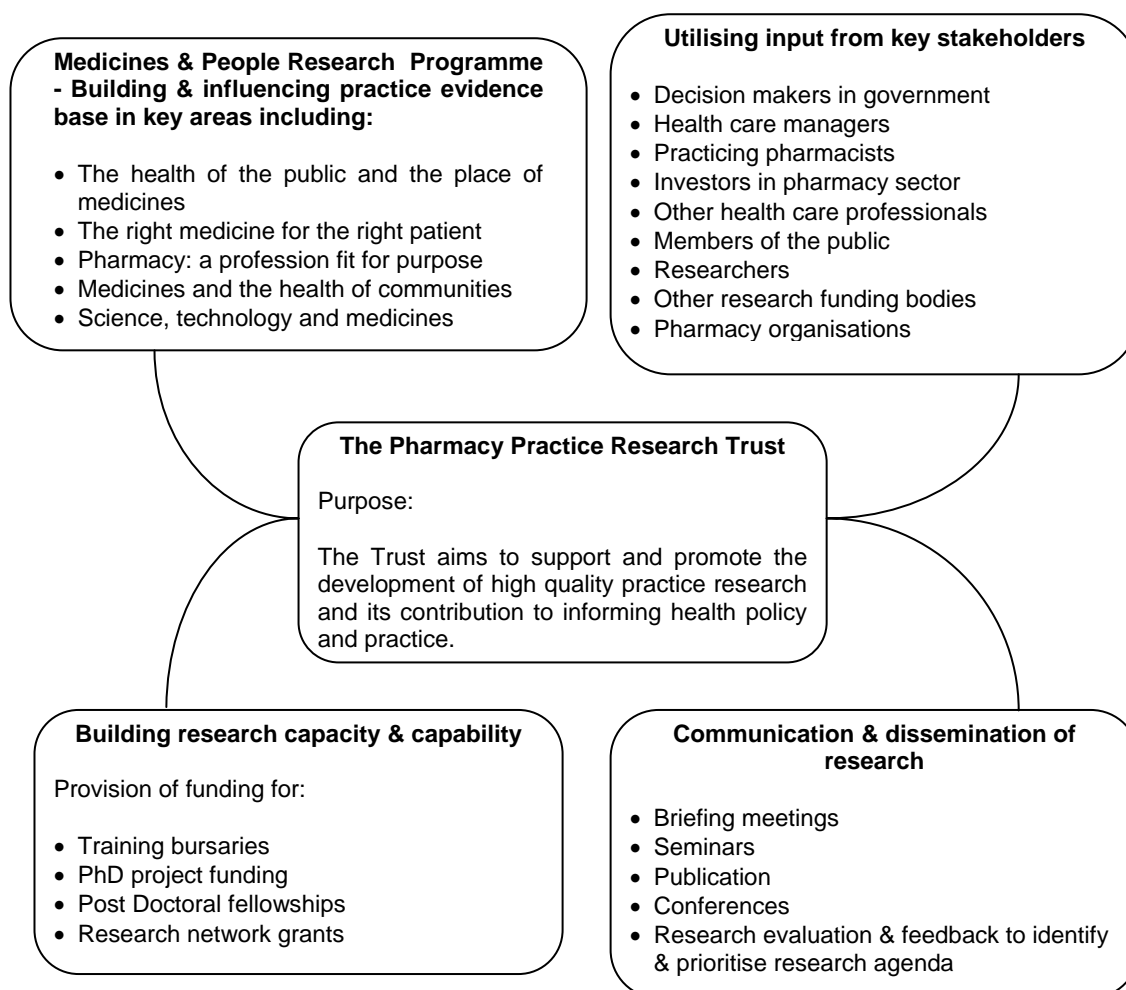
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Contents	Page
1. The Pharmacy Practice Research Trust	1-3
2. Commentary	4-5
3. Summary of Research Outcomes	6-28
4. Ongoing Research	29-38
5. Grant making in 2005/06	39-40
6. Events	41-42
7. Financial Summary	43

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The Pharmacy Practice Research Trust

The Trust aims to support and promote the development of high quality research relating to the professional practice and performance of pharmacists and the delivery of safe, patient focused services by the pharmacy workforce. It seeks to achieve this in a number of ways:



Medicines & People Programme

Through their **Medicines and People Programme** the Trustees are committed to creating knowledge that “ensures that the right person gets the right medicine at the right time in a manner that meets the needs and expectations of the individual who will take it” and to ensuring that this knowledge is used appropriately to inform and shape policy and practice relating to medicines and their use. The programme aims to increase understanding and improve the ways in which medicines are prescribed, funded, distributed, administered and used.

The Trustees are committed to disseminating the results from research that they fund as effectively as possible to ensure that the knowledge is turned into know-how and used to inform evidence-based changes to policy, practice and services. The **Medicines and People Programme** addresses 5 key themes:

Programme 1 - The health of the public and the place of medicines helps to understand the beliefs, expectations, skills, knowledge and competencies of the people who use and take medicines and those who oversee their care including carers as well as healthcare professionals.

Programme 2 - *The right medicine for the right patient: preventing medication errors* helps to understand the basis of clinical practice and the underpinning services, regulation and governance that supports it.

Programme 3 - *Pharmacy: a profession fit for purpose* will inform the development of the contribution which pharmacy makes to the provision of high quality patient centred care. This theme will develop evidence about the major changes that are expected to occur in the composition and workforce structure of the profession of pharmacy and its regulatory frameworks. This theme is split into three areas - **workforce, education** and **ethics** in pharmacy.

Programme 4 - *Medicines and the health of communities* will explore medicines and their place in addressing the wider health agenda relating to public health and tackling inequalities.

Programme 5 - *Science, technology and medicines* will highlight how the pharmacy profession meet the changing expectations of society and accommodate and contribute to the challenges of a rapidly evolving scientific and technological agenda.

Why Medicines and People?

Medicines are the most common form of treatment used in the NHS and by the public in treating self-limiting, common ailments. It is estimated that at any one time 70% of the population is taking medicines to treat or prevent ill health or to enhance their health. Medicines often reduce or eliminate the need for more costly treatment in hospital.

In 2005 it is estimated that the NHS spent £10.4 billion on NHS medicines representing 11% of the total NHS budget with just over 825 million prescriptions issued¹. On top of this the public spent an additional £2,074 million on over-the-counter medicines in the UK representing a 2.2% annual growth, equating to £44.3 million². Research and development expenditure by the pharmaceutical industry ran to £3,308 million².

Despite this significant investment in developing, testing and purchasing medicines, comparatively little investment is made in understanding the systems which govern the way medicines are selected, dispensed, supplied, administered and taken.

At a time when patient safety is paramount and the role of pharmacists is evolving to engender a wider health care role and greater participation in the current public health agenda, the investment now being made by and through the Trust in exploring medicines and people is indeed timely. Knowledge about people's beliefs, expectations, skills and attitudes in relation to the medicines which they prescribe, dispense, administer and take, will provide the insight necessary to design safe and innovative new practices and services. Better understanding of the systems and practices themselves will be crucial in responding to calls for improvements to regulation and governance to ensure patient safety and the delivery of consistently high calibre services.

Building research capacity & capability

The Trustees recognise that as in any field of academic endeavour, the quality of the research produced relies heavily upon the availability of a properly equipped research workforce. The Trustees are therefore committed to supporting the development and training of the research workforce, particularly in pharmacy practice based research groups.

To this end the Trust has a specific programme of research bursaries and training grants:-

¹ <http://www.abpi.org.uk/statistics/section.asp?sect=4>

² <http://www.pagb.co.uk/pagb/primarysections/marketinformation/otcmarketgrowth.htm#2005>

Research Training Bursary Scheme

Intended to specifically support community pharmacists who have an interest in developing their skills in conducting research relating to everyday practice. The Pharmacy Practice Research Trust has £40,000 to annually fund a number of projects. Since the bursary scheme was established in 2002, eight community pharmacists have been funded to pursue research and/or develop an academic career. Bursary funds are available for three levels of work:

- Level 1:** Funding to undertake research modules and a small-scale project. For example, **service evaluation** to ascertain acceptability to health professionals or patients, uptake, clinical outcomes or resource implications (supported by a research organisation such as a Higher Education Institute, Primary Care Research Network or Research and Development Unit).
- Level 2:** Funding to upgrade a Diploma in Clinical/Community Pharmacy to a MSc, which usually involves undertaking a further two accredited educational modules (one on research methods) and undertaking a research project or a practice intervention initiative.
- Level 3:** Funding to undertake a non-pharmacy MSc that has relevance to and benefits the world of pharmacy.

Practice Research Awards

The Pharmacy practice research Trust has granted 11 awards since the scheme was established and it has funded research covering issues such as; medication safety, patient attitudes, self-care, concordance and skill mix. Pharmacists wanting to start or develop a research career are therefore encouraged to apply. Awards are available for:

- those requiring funding between PhD and post doctoral grants;
- those requiring funding to go from MPhil to PhD;
- practitioners new to research; and
- PhD students requiring 'research costs' to enhance their PhDs.

The awards can also be used to fund new areas of research, for example, pre-pilot and feasibility studies that would not be considered by other funding bodies. There are two types of award available:

Galen Award - one or more awards made annually to a total value of £10,000 funded by a bequest by Rowland Henry Williams to support registered pharmacists from all sectors to undertake practice research.

Sir Hugh Linstead Fellowship - one or more awards made annually to a total value of £45,000 funded by a grant from the Leverhulme Trade Charities Trust in order to support research relating to community pharmacy.

For more information on the awards and bursaries please contact Beth Allen, Research Programme Co-ordinator at the principal Trustees address or e-mail beth.allen@rpsqb.org

Building partnerships – developing know-how

The Trustees are committed to sharing and disseminating research outcomes and working with a wide range of stakeholders. It is hoped that this will assimilate the knowledge gained through research activities into the existing professional knowledge base - influencing policy, practice and services and support the process of innovation in healthcare. The Trust aims to work closely with potential sponsors and partners to identify and develop workable projects and to identify future research and professional issues. As such, in addition to publication, the Trustees aim to involve stakeholders, academic partners and sponsors in events to discuss emerging and final results from projects funded by the Trust.

Commentary

The Pharmacy Practice Research Trust's over arching research agenda of *Medicines and People* brings together all the elements that underpin professional practice in delivering patient care and services. The 5 key themes effectively link together to ensure that research informs and influences the right workforce (adequate supply/high quality) delivering the right services (utilising specialist knowledge of medicines) in the right manner (competently, ethically and professionally) to benefit patients and practice as a whole.

This report presents a summary of the completed research over the last year and highlights key findings. Full copies of reports can be obtained from the Trust on request or downloaded from the Royal Pharmaceutical Society's website³. In addition, ongoing and future research projects are presented in section 5 of the report. Alongside the research from the *Medicines and People* programme, the contribution of the work produced through the research awards and bursaries adds considerable weight to important issues concerning pharmacy concomitant to building individual knowledge and skill base - these research projects are also outlined in sections 6 and 7 of the report.

It is important to note that whilst the Trust are concerned with research covering the 5 key themes, this agenda is a long term strategy and as such reporting on an annual basis may not include work across all five themes. Indeed, in this reporting year there is a clear accent on programme three, particularly relating to the current and future pharmacy workforce.

The completed research reports and future research are notable in their innovative methodology and aligning with policy makers' agenda in determining what people want as an antecedent change. In addition, evaluative research on services from a patient perspective and from the perspective of other health care professionals is welcome as the success of new initiatives such as supplementary prescribing (SP) and minor ailment management will depend upon patients' acceptance and support from colleagues in health and social care.

The increasing agenda for community delivered care and the new contract for pharmacists brings with it the introduction of services that demand skills and expertise to meet the public health agenda, notably Medicines Use Review (MURs) and SP. Programme one reports findings that not only provide an update on SP initiatives but identified clinical governance issues and barriers for implementation and the importance of inter-professional working and communication. The theme of communication and information between and for health care professionals and patients has been picked up in a report on safety systems and practice in programme two.

In programme three it is recognised that the career aspirations and choice of work sector among students will ultimately determine future pharmacy workforce. The work reported examines these aspirations and career choices at various stages of the MPharm course and looks at key influences. The findings are of note in identifying not only influences but changes to work ethos which may impact on supply of pharmacists in key sectors. This includes the number of students who want to work in more than one sector, the number of those who intend to take career breaks, those who want to work overseas, work part time or as locums or work until retirement. In addition, differences observed across ethnic backgrounds and gender should be noted in light of the increasing feminisation of pharmacy and increase in students from different ethnic backgrounds.

The studies show that student aspirations and career ambitions, notably as entrepreneurs in independent business, do not match the reality of workforce employment with the RPSGB pharmacy census workforce data⁴ which shows that over 70% of those actively employed work in the community sector. The results suggest that many students taking part in the studies may have to revise their intended sector of practice when they begin working which may lead to dissatisfaction. Long term follow

³ <http://www.rpsgb.org/informationresources/downloadsocietypublications/#r>

⁴ The University of Manchester, commissioned and published by the Royal Pharmaceutical Society. *Pharmacist work patterns: Pharmacy workforce census 2005*.

up of students beyond their degree course will be the only way to ascertain the corollary of preregistration and post registration experience on ultimate career choices.

In addition to the introduction of enhanced and advanced services, the future of pharmacy practice must also be influenced by scientific and technological progress. For this reporting year, programme 5 introduces a discussion on the diagnosis and treatment of diseases using genomic medicine (Pharmacogenomics, Pharmacogenetics). The paper also covers a wider discourse on effects of globalisation of pharmaceutical industry, changing pharmaceutical market place and changing NHS.

The combination of research and education is a powerful tool in the progression of academic excellence and contributes towards the professions evidence base and the development of individuals for their own benefit and that of the wider community. The research awards and bursaries undertaken in the last year are far reaching and cover areas of acute interest including management of specific conditions and support for vulnerable patients in the community. Details of the awards granted in this reporting year are given in section 7 of the report.

Ongoing and future research on education and ethics are strongly associated with undergraduate studies, practice based skills and the construct of professionalism. It is hoped that the findings from this research and indeed the discourse generated will contribute towards the wider agenda of education, continuous professional development and leadership in pharmacy.

Furthermore, many of the research reports have generated additional research questions, some of which are already being addressed through forthcoming funded research and some which will inform future discussions on the Trust's research strategy and work programme.

A handwritten signature in black ink that reads "Sue Ambler". The signature is written in a cursive, flowing style.

Sue Ambler
Director, Pharmacy Practice Research Trust



Programme One: Health of the Public and the Place for medicines

Research reviewed:

Exploring Innovation in Pharmacy Practice: A Qualitative Evaluation of Supplementary Prescribing by Pharmacists - Dr Marjorie C Weiss, Dr Jane Sutton & Mrs Catherine Adams, Department of Pharmacology, University of Bath

Investigating factors influencing user choices to visit either general practitioners or community pharmacists in the management of minor ailments – piloting a discrete choice experiment - Dr Dyfrig Hughes MRPharmS, Centre for Economics and Policy in Health, University of Wales, Bangor

Key Findings

Average length of time in practice before starting course was 19.3 years (range 9-30 years)

Authors state that the participants may not be wholly representative but indicative of those who are early adopters.

An important element in gaining support for training and implementation of the SP role appeared to be the level of understanding at PCT or trust level, receptiveness of practice and GP attitudes towards SPs.

Participants felt there was a general lack of awareness and understanding of the SP role among both patients and other health care professionals.

Both structural and organisational problems were identified as barriers to SPs trying to implement their new roles.

In general it would seem that pharmacists who have successfully made the transition into prescribing have done so by careful analysis of service requirements within their setting, liaising with relevant individuals and having developed a business plan accordingly in order to justify the extra funding required.

There seemed to be great variation in the content and presentation of the various courses attended by participants.

Practice based element of their training was perceived as the most valuable.

Exploring Innovation in Pharmacy Practice: A Qualitative Evaluation of Supplementary Prescribing by Pharmacists

Dr Marjorie C Weiss, Dr Jane Sutton & Mrs Catherine Adams, Department of Pharmacology, University of Bath

Introduction

Supplementary prescribing enables pharmacists and other health care professionals to prescribe once a patient has been initially assessed by a doctor acting as an independent prescriber. The first pharmacist supplementary prescribers (SPs) completed their training and were able to prescribe from March 2004.

Whilst the numbers of pharmacy SPs is growing, it still represents a small proportion of the total number of pharmacists registered in England, Scotland and Wales. Clearly an investigation into why these pharmacists became SPs and the factors which facilitated or hindered this process is timely.

The project sought to explore how the SP role works in practice and the factors which contribute to successful and unsuccessful implementation. The project aimed to:

- To explore the nature and development of the supplementary prescriber's relationship with patients and other members of the health care team including designated medical practitioners.
- To explore the patient's perspective in how they perceive the role of pharmacists as supplementary prescribers.
- To discover how SPs see the development of their own role as a pharmacist i.e. job satisfaction, professional status and attitude towards clinical responsibility and accountability.
- To investigate the role of formal and informal training in their development as an SP.
- To identify external factors that enhance or detract from their role as an SP.

The research was carried out in two stages utilising interviews with SPs and a case study methodology. Data sources included semi structured interviews, direct researcher observation and documentary review of clinical management plans. Data was analysed using grounded theory.

Findings

Overall pharmacist SPs embraced the challenges and benefits of supplementary prescribing and felt they were better able to use the clinical knowledge and skills they had been taught. Whilst participant pharmacists had no desire to take on diagnosis of conditions, they felt they were better trained and equipped to prescribe. Generally most participants felt that their new role had made a significant contribution to improved patient care, particularly in the primary care setting.

All participants in all settings said that the biggest contribution they could make in terms of patient care concerned medication advice which they felt could lead to greater compliance and better patient understanding of the medications they are taking.

Development of SP & relationship with other health care professionals

The relationship with a designated medical practitioner (DMP) was deemed to be key to undertaking training and was associated with the development of trust base, notably associated with a history of involvement. Findings suggest

Community pharmacists have particular obstacles to overcome including access to medical records, physical distance from independent prescriber and lack of funding to provide the service.

Process of prescribing for vulnerable people including those who are dying shows how different situations demand the development of different consultation and communication skills.

The report found that some participants who have undergone SP training some time ago had still to start working as a SP – issues with reduction in skill level over time.

For supplementary prescribing to work, the research suggested that good communication between health care professionals and patients was vital when adding an additional health care professional to an already complex primary and secondary health care system.

The majority of participants believe that Independent prescribing is the way forward for pharmacy practice.

that the longer the relationship between the pharmacist and GP/hospital clinician, the more likely the GP/hospital clinician would agree to be a DMP. The authors argue that in the community the lack of opportunities to develop ongoing relationships with other health care staff has the potential to hold back supplementary prescribing.

Participants felt there was a general lack of awareness and understanding of the SP role among both patients and other health care professionals. Recognition of pharmacists' skills and knowledge by other health care staff is vital and both structural and organisational problems were identified as barriers to SPs trying to implement their new roles. These barriers included attitudes of health care professionals and conflicts for professional development, particularly in primary and secondary care where training resources may be shared and are limited.

The role of formal and informal training in their development as SP

None of the participants related any problems getting onto courses but the authors note that this may be due the researchers only contacting those who had completed the training (i.e. those who may have had difficulty getting onto a course were not included in the study's sampling frame) as well as conducting the research soon after the introduction of SP when the demand for course places was not high.

Support to undertake training appeared to be easier for pharmacists working in secondary care where such training was viewed as part of professional development and there were associated budgets. In primary care, funding often came through PCTs or in a few cases from GPs. In community pharmacy, self funding was more common.

There seemed to be great variation in the content and presentation of the various courses attended by participants - some participants welcoming more clinical and diagnostic skills training. Indeed clinical examination skills were the area where pharmacists felt least competent and the practice based element of their training was perceived as the most valuable. Findings showed that attitudes towards clinical training varied according to work area with pharmacists working in primary and secondary care having greater exposure to patients and consultations and therefore more knowledgeable in this area. Those pharmacists with little experience of undertaking patient consultations found the consultation part of the course very valuable

Practical issues associated with undertaking study in addition to workload were noted by some participants and fitting in training along side job and family commitment was a difficulty for some participants.

It appears that pharmacists feel that the majority of their support, once they have begun prescribing, is derived notably from colleagues and employers. Participants were non committal about the role that the RPSGB plays in offering support.

There was concern among GPs acting as DMPs about support for both DMPs and SP students, particularly if the SP is not doing well. In addition, there is a need for more information on what the role involves and GPs felt that there should be support from the beginning with clear guidance on the best approach.

External factors that enhance or detract from their role as an SP

Some of the external factors relating to problems or concerns with role implementation relate to issues surrounding clinical governance including the reduction of risk in prescribing, patient consent, confidentiality, accountability,

Future Research

Research needed to ascertain why some pharmacists did not get funding or support from their employer. This research only included those who had secured funding and undergone training.

Research to ascertain if some pharmacists attempting to undertake training have not done so because of difficulties finding a supportive DMP.

The group included were potentially atypical and further research will be needed among future SPs as the number of pharmacists undertaking SP training becomes more widespread.

There is a need to ascertain what the current demand for training places is.

maintenance of professional skills and equity of care.

Participants felt that essential to safe and effective patient care was access to patients' medical notes which was a notable problem with community based supplementary prescribers – both a resource and ethical problem. In addition, there were concerns over the lack of facilities for generation of electronic prescriptions which participants felt could lead to errors.

Completion of clinical management plans, although part of the mandatory agreement between Independent Prescriber and Supplementary Prescriber, organisational structures and attitudes towards these documents varied.

Patient consent to be seen by a pharmacist was also of concern with participants reporting that the referral process varied from practice to practice in primary care and in some cases the agreement of the patient was not sought. None of the patients interviewed in phase 2 of the research had been formally asked to agree to be seen by a pharmacist.

The report found that some participants who have undergone SP training some time ago had still to start working as a SP. Reasons for this were found to be organisational and structural, the way that doctors and pharmacists work together and time within day-to-day work to do this. The level of understanding of the SP role among employers was poor and one reason given for non prescribing was that the employing authorities had not thought the process through properly prior to pharmacists undertaking the course, leading to delays in practice. This raises concerns about whether the skills that those students had learnt were lapsing.

The report case study provides examples of successful implementation with pharmacists running single condition clinics e.g. hypertension clinics. However, participants felt that patients with multiple conditions may be disadvantaged in the supplementary prescribing model with patients needing to consult multiple prescribers, a scenario which may be at odds with the construct of patient centred care and an over arching political agenda of a patient led NHS. The authors propound that this scenario may be indicative of an NHS that instead of being designed around the needs of patients may actually revolve around the needs of a health care system and the capabilities of different professional groups

Future

The majority of participants believe that Independent prescribing is the way forward for pharmacy practice, particularly those from a hospital setting, for instance, in allowing drug dose adjustment in the case of obvious errors without having to find a clinician to sign it. Although most agreed this was the way forward, primary care participants do not feel they are ready yet. Other health care professionals expressed concerns over pharmacists becoming independent prescribers although GPs felt that this might work well in a specialist team.

The report presents several recommendations as a result of the findings:

There needs to be support for the practical processes that make SP work at ground level including access to computers / prescription printing. Also includes identification of lines of professional responsibility and accountability.

Community pharmacists may need additional support from their local PCT to facilitate SP roles in the community sector.

Economic Evaluation (Appendix 1)

To be efficient pharmacist supplementary prescribing must either be:

- Preferred by patients (for whatever reasons)
- Cheaper (either service and/or drug costs)
- Clinically better (improved outcomes and/or reduced risk).

Research to investigate these factors should be considered notably, patient focused evaluation, and economic evaluation.

In addition there is a need to investigate the impact of the SP role on doctors.

There needs to be greater publicity surrounding the benefits and rationale behind SP roles.

Patients need to be informed of why they have been selected, the potential benefits to them and the right to refuse to see a pharmacist and what to do if something goes wrong and in what circumstances.

The role of Clinical Management Plans needs to be clarified. Clear guidance at both national and local level is needed to ensure that practitioners are aware of the limitations and liabilities of their prescribing practices.

There is a need for continued support after training, e.g. internet, workshops etc, which reinforce and extend learning on, for example, consultation and communication skills.

It is recommended that SP need to begin working as a SP within 1 year of completing training or else they will need to re-train. Some of the participants had not yet used the training for several reasons.

Note:

One of the purposes of this project was to identify avenues of future research into supplementary prescribing from an economic perspective. Appendix 1 of the full report presents an Economic report by *Jonathan Silcock, MRPharmS, MSc (Health Economics) Lecturer in Pharmacy, Medicines Management and Pharmacy Practice Group, School of Healthcare, University of Leeds*

Funding: Commissioned by the Pharmacy Practice Research Trust, funded through a grant from Boots The Chemists - £50,000

Status: Published - March 2006

ISBN: 0-9550029-1-5

Key Findings

Key attributes affecting patients' decision drawn from focus groups included:

- When seen
- Length of consultation
- Travel time to visit
- Location of consultation (GP surgery vs. chemist)
- Expenses

Chemist is less preferred than GP and a shorter consultation with a GP is still preferred to a longer one in a pharmacy.

Cost has implications and changes the preference to some extent.

Shorter consultation preferred maybe due to the nature of the minor illness or could be that patients are aware of the pressures on GP time.

Future Research

Further investigation of other attributes identified in the focus groups and their impact on choice.

There is a need to investigate the impact of cost on choice of visit as this could be linked with abolished prescription charges and choice of who to visit.

Investigating factors influencing user choices to visit either general practitioners or community pharmacists in the management of minor ailments – piloting a discrete choice experiment.

Dr Dyfrig Hughes MRPharmS, Centre for Economics and Policy in Health, University of Wales, Bangor

Introduction

Recent years have witnessed a multiplicity of efforts to reconfigure first-contact services to better target and meet demands of patients. Efforts to optimise skill-mix within primary care have been particularly pronounced; with an explicit shift in health policy geared towards encouraging increased self-care in the treatment of minor ailments through community pharmacies as opposed to through general practices to alleviate pressures on NHS resources. Policy efforts to effect this substitution have, to date, been moderately successful.

Despite current extensive use of general practice and community pharmacy in the management of minor ailments, we still do not have a clear picture of either the factors influencing users preferences between these options or the complex user choice processes involved in making these decisions. Yet, this is necessary if policy makers are to be able to counteract sub-optimal response to initiatives to encourage increased use of community pharmacies by modifying policy to better match user preferences; removing or minimising potential obstacles to substitution. Research exploring users' choices between general practitioners and community pharmacists is, therefore, timely and highly relevant.

The challenge now facing policy makers is to encourage more routine substitution, making the community pharmacy the first 'port of call' for dealing with minor illness. Key to this is gaining a better understanding of the factors that influence users' choices between visiting general practitioners and community pharmacists in their management of minor ailments.

Aims and objectives

The aim of the research was to elicit preferences influencing user choices to visit general practitioners or community pharmacists to deal with minor ailments. Specifically, the main objectives were:

- To identify the key attributes relevant to users' choice to visit general practices or community pharmacies to manage minor ailments.
- To identify the impact of each attribute on the user's choice decision.
- To explore how users trade-off attributes during the choice process.
- To examine relationships between key user characteristics and the choices made.
- To ascertain the feasibility of using Discrete Choice Experiments (DCE) methods to understand user decision-making processes in choosing between visits to general practices or community pharmacies in the management of minor ailments.

Methodology

Eight user focus group meetings were convened to determine priority attributes for inclusion in the discrete choice questionnaire. The postal questionnaire, which was sent to 420 addresses across Wales, included the DCE, together with questions on socio-demographic characteristics, and use

of health services.

Findings

The attributes identified from the focus group meetings for inclusion in the DCE questionnaire were based on their perceived appropriateness and pragmatically selected for inclusion based on factors that policy makers could influence and included:

- When seen
- Length of consultation
- Travel time to visit
- Location of consultation (GP surgery vs. chemist)
- Expenses.

The findings of the DCE show that patients on the whole still prefer to visit a GP surgery as opposed to a Chemist. For most respondents the preferences changed to some extent when attributes of cost and waiting time were introduced. However, length of consultation does not affect preference to be seen in a GP surgery, with a shorter consultation with a GP preferred to a longer one with a pharmacist.

There was however, still a relatively high proportion of respondents who consistently chose the worst case scenarios (longer time to when seen, higher cost etc.) and a preference to visit a GP - future research is required to ascertain the reasons behind this.

The authors argue that shorter consultation may be preferred either due to the nature of the minor illness or patient awareness of pressures on GP time.

Summary

Despite a low response rate to the questionnaire, the use of discrete choice methodology to explore this area was demonstrated to be both feasible and successful. However, a number of methodological issues were raised by this research that merit further consideration and research. In particular, important questions concerning how to select the attributes for inclusion within the DCE choice scenarios were raised.

A number of interesting policy implications also emerged from this research. The results of the discrete choice experiments indicate that there is potential to improve the efficiency of policies aiming to increase use of community pharmacies in the management of minor illnesses. Policy makers need to reinforce the benefits of the immediate and local availability of community pharmacies that can offer brief consultations, often at less or the same cost as consulting a general practitioner to receive a prescription medicine. Users' strong preference to see a GP, coupled with the phased abolition of the prescription charge in Wales may, however, conspire against achieving these policy aims.

Funding: 2004 Galen Award - £14,500

Status: Completed - March 2006. Due to be published.



Programme Two: The right medicine for the right patient

Research reviewed:

A qualitative investigation of the underlying causes of drug related morbidity in primary care, resulting in hospitalisation - Rachel Howard, Research Pharmacist, Nottingham Primary Care Research Partnership, Broxtowe Hucknall PCT, Nottingham.

Key Findings

The underlying causes of the admissions are detailed below:

- High-risk patients
- Limited access to patient information
- Insufficient knowledge of drugs
- Blurred lines of responsibility
- Inadequate guidelines
- Inadequate patient counselling
- Patient reluctance to seek medical help
- Poor relationships between healthcare professionals and patients/carers & between healthcare professionals
- Time and workload pressures

The most commonly occurring underlying causes of preventable drug-related admissions to hospital are communication problems between different healthcare professionals and between professionals and patients and knowledge gaps on the part of both healthcare professionals and patients. Underlying both of these are time and workload pressures.

Working conditions for community pharmacists severely limit their ability to effectively act as a safety barrier to patients receiving inappropriate medication. Limitations include heavy workloads, lack of access to patients' clinical information, poor relationships with general practitioners and time restrictions.

A qualitative investigation of the underlying causes of drug related morbidity in primary care, resulting in hospitalisation

Rachel Howard, Research Pharmacist, Nottingham Primary Care Research Partnership, Broxtowe Hucknall PCT, Nottingham

Since the publication of an *organisation with a memory* there has been increasing emphasis on the investigation of system failures as a method for understanding why errors occur in the NHS and how they might be prevented.

This study explored the underlying causes of preventable drug-related patient admission to hospital, from primary care, and the views of general practitioners, pharmacists and patients concerning medication-related morbidity in primary care. Data sources included semi-structured interviews and review of patients' medical records.

The objectives of this study were:

- To identify the underlying causes of, and factors contributing to, medication-related admissions to hospital, from primary care.
- To explore the views of general practitioners, pharmacists and patients on a range of issues concerning medication-related morbidity in primary care.

This study involved two-phases. The first phase gauged healthcare professional acceptance of involvement in the study. The second phase recruited patients who had been admitted to hospital with preventable drug-related morbidities, and the healthcare professionals involved in their care.

Data analysis revealed that the underlying causes of admissions were multifaceted and complex. Problems occurred at the point of prescribing, dispensing, taking, and monitoring drug(s), and seeking medical attentions in most cases.

The most important underlying causes of, and factors contributing to the admissions are detailed below:

High-risk patients. High-risk prescriptions were most commonly made in patients aged >75 years old who had multiple co-morbidities and taking four or more medications. There seemed to be a lack of recognition of this risk by GPs and pharmacists.

Limited access to patient information. Limited access to patient information, medical history, test results etc, was a problem for GPs during home visits and community pharmacists as they were unable to assess the appropriateness of medication.

Insufficient knowledge of drugs. In addition, there was evidence of lack of understanding of the risks of medications to patients on the part of GPs and pharmacists.

Dependence on computer systems. There was an expectation by GPs and community pharmacists that computer systems would alert to medication problems, and therefore, it was not necessary to know all the risks associated with prescribing medications. However, the computer systems did not always alert to drug-drug interactions and were not designed to link diagnoses to prescribed drugs.

Blurred lines of responsibility. Some GPs were continuing medication started in hospital, or by colleagues in group practices. In these cases it was

GPs and pharmacists viewed patient counselling about medication as a low priority due to time and workload pressures.

Future issues for consideration

For policy makers it raises important issues around the set up of healthcare in the NHS. Limited access to patient information during home visits and pharmacy consultations clearly contributes to preventable adverse drug events in primary care.

Guidance given to GPs around the monitoring of medication - for high-risk medications, e.g. non-steroidal anti-inflammatory drugs, diuretics etc., it would be very useful to be able to develop evidence based guidelines on what monitoring is useful, and when it should be done.

Finally, the role of community pharmacists as a safety barrier to prevent adverse drug events in primary care is currently very limited. It would be useful to look at ways of improving their contribution to patient care in this area. Allowing community pharmacists access to patients' clinical information is likely to facilitate this role.

assumed the appropriateness of the medication had already been assessed, and therefore was not considered when issuing further prescriptions.

Inadequate guidelines. GPs were expected to continue medication which they were unfamiliar with, resulting in inadequate monitoring, as they received inadequate guidance.

Inadequate patient counselling. GPs and pharmacists viewed patient counselling about medication as a low priority due to time and workload pressures. Pharmacists rarely counselled patients about medication if it was a repeat prescription. As a result, patients often had poor awareness of their medication, when and how to take it, what it was for and what side effects to expect, let alone what to do if they experienced side effects.

Reluctance to seek medical help. Patients were often reluctant to seek medical attention, as they were not sure they were ill enough to warrant it. This resulted in them becoming increasingly unwell, and needing hospital admission.

Poor relationships between healthcare professionals and patients/carers & between healthcare professionals. Part of this reluctance to seek help resulted from a poor relationship with the GP or pharmacist. Poor relationships between pharmacists and GPs reduced the likelihood of pharmacists intervening on prescriptions where they thought there might be a problem, but were not certain.

Time and workload pressures. Underlying all of the above factors were time and workload pressures which meant that tasks not perceived to be essential by healthcare professionals, were not performed e.g. reviewing patients started on new medication, checking for problems on repeat prescriptions, counselling patients about medication, intervening on prescriptions where there may be a problem.

Summary


This study has important implications for clinicians, patients and policy makers. The results highlight the importance of good communication between patients and clinicians, and the importance of knowing about the medication that is being prescribed or supplied. It also helps to raise the profile of the time and workload pressures which can lead to these tasks being performed poorly.

The study also highlights the importance of patients knowing about their medication, when and how to take it and which symptoms mean they should be seeking urgent medical attention. In order for patients to obtain this information, they may need to be more assertive with healthcare professionals, asking for the information where it is not volunteered.

The results of this study represent an important addition to our understanding of the contribution of human error as an underlying cause of preventable drug-related morbidity, and the factors which contribute to human errors occurring in the primary healthcare setting.

The underlying causes of preventable drug-related admissions to hospital, from primary care, are multifaceted and complex. Interventions to prevent future admissions will have to take account of their impact on time and workload for the professionals implementing them, as this is the most common reason for tasks not being performed.

The current trend to devolve tasks away from professionals will only help to

 improve the level of care if it results in real increases in the time that professionals spend with patients, not just in time to see more patients.

Funding: 2003 Galen Award - £10,000

Status: Completed - June 2005. Due to be published.



Programme Three: Pharmacy - a profession fit for purpose

Research reviewed:

Pharmacy Undergraduate Students: Career Choices & Expectations Across A Four-Year Degree Programme - Keith Wilson, Jill Jesson, Chris Langley, Katie Hatfield and Laura Clarke, Aston University.

Studying Pharmacy: who, when, how, why? What next.. A longitudinal Cohort Study of Pharmacy Careers. Early choice Questionnaires - Sarah Willis, Phil Shann and Dr Karen Hassell. Centre for Pharmacy Workforce Studies, School of Pharmacy University of Manchester.

Factors underpinning the work patterns of female community pharmacists over the age of 30. A report detailing a Q-methodology study - Dr Wendy Gidman, Dr Karen Hassell, Dr Jennie Day, Dr Katherine Payne. Centre for Pharmacy Workforce Studies, School of Pharmacy, University of Manchester.

Key Findings

The most significant factor influencing ambition and expectations of students is contact with practice during undergraduate years. This has major implications for pharmacy as, at present, practice placements in the undergraduate programme are *ad hoc* with no national funding.

Schools of pharmacy and course content have a major role to play in the development of future pharmacy workforce.

University publicity was identified as a key influencing factor that will ultimately determine the nature of the pharmacy application pool.

The demographic make up of current students and associated preferred work-life balance may impact on future workforce.

The ambitions and career aspirations for some students demonstrate a mismatch with the reality of future employment.

Pharmacy emerges from the research as a secondary profession to the mainline health professions of medicine & dentistry.

RPSGB not seen as a major influence in career field decisions with little direct contact with undergraduates, this has implications for the ability of the RPSGB to influence future workforce supply.

Around one third of students who started with a definite idea of their career area changed their

Pharmacy Undergraduate Students: Career Choices & Expectations Across A Four-Year Degree Programme.

Keith Wilson, Jill Jesson, Chris Langley, Katie Hatfield and Laura Clarke, Aston University

Introduction

The aim of the study was to establish a baseline understanding of the career aspirations, motivations and expectations of students in undergraduate pharmacy education in the UK. The study was carried out in 2004/2005 and included a survey and semi-structured interviews to ascertain the views of a proportion of first and final year students from schools in the UK.

Findings

The major extrinsic factors influencing the decision to study pharmacy were identified as the perception that pharmacy offered guaranteed employment and was well paid. Although in contrast this is balanced with just under a third of respondents believing that pharmacy has few opportunities for promotion and career development. Observed intrinsic influences included like and aptitude towards science and personal aspirations for a good career.

The choice of university was influenced by university prospectus, reputation of the school and course content. The findings suggest that the nature of the course can have major impact upon ambitions and expectations of students. One fifth of first year students had not yet decided which career path to take. By the final year this had reduced considerably, in addition, one third of all students with pre determined career choices had changed their minds about which area of pharmacy they wished to work. The proportion of students who wanted to own their own business in the first year had reduced, as did those who wanted to work in industry. The desire to work in Academia, in an NHS hospital and locum work had increased by the final year. Students cited influences such as visits to hospital or community pharmacy. This demonstrates the capacity for work placed learning and course content to influence ultimate career choice and role that schools can play in future career directions.

For the majority of students pharmacy was the first choice course. Of those where it was stated that pharmacy was a second choice option, medicine or dentistry was most commonly cited as the first option. Further research is required to determine attrition rates among these students.

There was over whelming agreement that medicine has a higher status than pharmacy as indeed did dentistry (among final year students) and this may be associated with approximately one in five students stating that they intended to take a second degree after completing pharmacy, suggesting that pharmacy is still not firmly established as a front-line health profession.

When considering future career options, multiple community pharmacy was the first choice pre registration sector for both first and final year students. Although more females were interested in hospital pharmacy or primary care trusts than males, and more males in community, with ownership of a community pharmacy the most common selected top career ambition. Between a third (first year) and half (final year) of all students would consider locum employment.

A greater proportion of females were influenced by wanting a job that was deemed to be socially useful, to work with patients, to work flexible hours and

minds during the course. The largest change was among those who had originally wanted to work in industry.

Further Research

Exploration of the insight into popular images of the current pharmacy profession from non pharmacy groups.

Qualitative work on why final year students appear to be less committed to pharmacy.

Work to extrapolate the reasons why students choose particular career paths.

Research on attrition and drop out rates from pharmacy courses is required.

Long term follow up of students whose first choice was not pharmacy.

the opportunity to work part time. Conversely a large proportion of males were influenced by wanting their own business and wanting the opportunity of self employment, notably higher for those from Asian backgrounds. In keeping with the findings that Asian students were more likely to plan to work as a locum, in keeping with the greater importance this group placed on self employment.

However, changes in the community pharmacy market and ownership, away from independent pharmacy towards large multiple corporate owners, is changing the possibilities for future employment. This trend has future implications for students in this study who expressed an interest in self employment and owning their own business and indicates a conflict with personal ambition and reality.

When asked about employment 5 years after graduation around a fifth of all respondents were considering time out for a family (notably higher for females), time out to travel and locum work. In addition, the option of working full time until retirement was no longer an accepted pattern and it was an option anticipated by only about half of male students and a quarter of female students. This suggests that many students have moved away from the traditional view of a career for life and intend to use the pharmacy qualification to enable freedom of lifestyle.

Summary

The study has several limitations including a relatively low response rate to the questionnaire. In addition, responses were received from schools in Great Britain only and accordingly cannot be generalised to the entire United Kingdom.

Nonetheless, the findings do bring to bear considerations in light of significant differences in motivations and career choices found between male and female students and those from different ethnic backgrounds and the recruitment and retention implications associated with this.

With changing patterns in student applications and increasing proportions of females applicants and current student attitudes towards work life balance, a key challenge for the pharmacy profession will be to attract suitable students into pharmacy degree programmes with aspirations that match the developing needs of the profession. Unless new schools attract a new entry pool, the expansion of the total entry numbers has implications for entrance standards and entry quality.

Funding: £60K, RPSGB (£40K from the Pharmacy Workforce Planning and Policy Advisory Group)

Status: Published - August 2006

ISBN: 0-9550029-5-8

Key Findings

For 74.5% of respondents pharmacy was first choice for study.

The proportion of ethnic minority pharmacists is set to rise from the levels recorded in the 2003 pharmacy workforce census.

The course's reputation was more influential than the institution.

Commonly used sources of information in choosing which university were cited as the university prospectus and open day. Family influence on choice was stronger among ethnic minority students.

40% of respondents had no experience of working in pharmacy prior to beginning their degree.

Proportionally more men than women expected to take a career break to study or travel abroad.

33.3% of males and 7.7% of females intend to work full time until retirement.

Females were more likely to believe that career prospects in pharmacy were becoming more attractive than males.

Pre-registration

Results indicate that many respondents may have chosen their pre-registration training post in light of their longer term career choices.

92.7% of respondents said they intended to go straight into their preregistration training.

Studying Pharmacy: who, when, how, why? What next?

A Longitudinal Cohort Study of Pharmacy Careers - Early Choices Questionnaire

Sarah Willis, Phil Shann and Professor Karen Hassell, Centre for Pharmacy Workforce Studies, School of Pharmacy, University of Manchester

This report presents survey findings from the Longitudinal Cohort Study, the purpose of which is to explore the early career development of pharmacy students who graduated in 2006. Results are presented from the first of four surveys - 'Early Choices' – which had a specific focus on the choices students made prior to studying pharmacy and future pre-registration and work intentions.

The study has been running since January 2004 and is due to finish in December 2008. The benefits of a longitudinal study design include the ability to track whether aspects of career commitment and choices made early career have an effect on subsequent pharmacy career choices and commitment to the profession, and to identify influences and predictive factors.

The rationale for conducting this study is to address a gap in pharmacy workforce knowledge. While there is evidence that careers in pharmacy vary with gender, age, life events, and ethnicity, little is known about why this variation occurs or at what point these demographic factors have an effect on careers in pharmacy.

The Early Choices questionnaire was administered in 2005 to 3rd year students of the four year MPharm degree. The aggregate response rate was 67%. Females were over represented among the respondents.

Choice of course and application to pharmacy

For 74.5% of the students pharmacy was first choice as a course of study. Pharmacy was the first choice for 83% of white respondents but lower for minority ethnic respondents (67%). Ethnic minority students were also more likely to have applied through clearing than the sample as a whole (17% vs. 10%).

Among students who made a late decision to study pharmacy (at 18 and over) it was more likely that pharmacy was not their first choice. This group were also more likely to have applied via clearing. About a fifth of students appear to have drifted into pharmacy and did not have, initially at least, a strong commitment to studying or practicing pharmacy.

Relating to choice of university, 61% of respondents stated that the reputation of the course influenced their choice of university, and 43% were influenced by the reputation of the university itself. This suggests that the course content was more influential than the institution.

For students at some schools of pharmacy though, a significant number of respondents were influenced by the location, and in particular the relative proximity of the school to the family home.

Commonly cited sources of information about pharmacy included the university prospectus, UCAS, university open day, careers advisors, having a pharmacist in the family. Proportionally more females than males found work experience a useful source of information, although 40% of respondents had no experience of working in pharmacy prior to their degree. The RPSGB was

A significantly higher proportion of ethnic minority students wanted to do pre-registration training in London.

The general trend was for most students at each school to want to remain in the region where they had studied.

Future Research

Further research on the impact of ethnicity, choice of work sector and long term implication for the workforce is required.

At an institutional level the authors found that more than half of respondents from 5 universities wanted to do their pre-registration training in hospital pharmacy. The reasons could be explored further.

The results of the 2nd survey will be available soon, and work on the 3rd survey is underway.

not deemed to influence choice.

The majority of students were influenced to study pharmacy because it is a science based course.

Career choice on entry to school

Just over half of all respondents (52%) had a clear idea about the branch of the pharmacy profession they wanted to work in once they had qualified. Significantly more males than females were unsure, as were a higher proportion of ethnic minority students.

50% of respondents said that on entering pharmacy school they hoped to work in the community sector on graduation, a further 18% in hospital pharmacy, 14% in a mixture of two or more sectors and 10% had no clear idea about what they wanted to do.

Around 1/5 of students had considered changing courses or dropping out, and this was significantly higher for white males (27%). The most frequently given reason for this was academic difficulties. This group were also significantly more likely to want to do something other than work as a pharmacist on graduation, suggesting that experiences while studying pharmacy effect career choices.

Pre-registration training

More than 90% of respondents said they intended to go straight into their pre-registration training.

Approximately equal numbers of respondents wanted to do their pre-registration training in hospital and community. However, data from the RPSGB indicates that proportionally more posts exist in community pharmacy, indicating that not all respondents are likely to secure their first choice of pre-registration training.

More females than males, and more whites than ethnic minority students wanted to train in hospital pharmacy. Choice of pre-registration training was influenced by career and promotion prospects, reputation of pharmacy company, working conditions and future financial prospects.

Later career choices

Participants were asked about their career choices for 10 years time. These were significantly related to career intentions on entry to pharmacy school, indicating that early career choices were reinforced during the course of studying for an MPharm. As with early career choice more females than males wanted to work in primary care and hospital pharmacy practice. More ethnic minority respondents intended to have a career as an entrepreneurial community pharmacist.

Attitudinal data showed that females were more likely than males to think that career prospects in pharmacy are becoming more attractive, whereas more ethnic minority students than whites wanted to do something other than pharmacy, as did more males than females.

Summary

Proportionally, females were more likely to have chosen hospital practice for their future career. Comparison with census data indicates that over 70% of those actively employed work in the community sector. This suggests that a sizeable proportion of newly trained pharmacists may have to revise their intended sector of practice when they begin working. Job dissatisfaction may

be an outcome when faced with the reality that most jobs are based in community pharmacy and fewer in the hospital sector.

Only a quarter of the cohort expected to work full time until retirement and the vast majority expected to take a career break. Taken together these results have serious implications for the future supply of pharmacists and represent challenges for both workforce planners and pharmacy employers.

Funding: Funded by a grant from the RPSGB - £400,000

Published: February 2006

ISBN:0-9550029-2-3

Key Findings

Part time and practitioner level, rather than owner or senior management positions, are common among female community pharmacists in the 30-40 age group.

Combining community pharmacy working with family responsibilities presented challenges. Most respondents seemed to choose to work less hours in a lower status job and settle for a lower salary.

Findings suggest that childcare costs, abolition of the part time registration fee & annual leave allocation are all relatively unimportant to respondents.

Pressure in the workplace is significant for some respondents, mostly due to rising prescription numbers, inadequate staffing and the new pharmacy contract.

Contrary to recent speculation, few respondents were planning on leaving the register as a consequence of mandatory CPD, although the CPD process was problematic for some.

Factors underpinning the work patterns of female community pharmacists over the age of 30 - A report detailing a Q-methodology study

Dr Wendy Gidman, Professor Karen Hassell, Dr Jennie Day, Dr Katherine Payne. Centre for Pharmacy Workforce Studies, School of Pharmacy and Pharmaceutical Sciences, University of Manchester.

Introduction

The aim of the study was to explore the reasons why female community pharmacists adopt certain working patterns and to identify the factors that may influence their choices by:

- exploring what motivates female community pharmacists over 30 to work full or part time;
- exploring what female community pharmacists over 30 perceive to be barriers to working full time; and
- exploring what aspects of community pharmacy employment influence women's preferences of employment patterns after the age of 30.

Method

The study comprised two stages. The first involved semi structured interviews in the summer of 2005 with 30 female community pharmacists to gather qualitative data statements to explore factors that underpinned their work patterns within the sector. The second stage used Q-methodology based on the statements to quantify and categorise the opinions of the sample group.

Findings

Female pharmacists adopt heterogeneous work patterns to fit with personal circumstances; a wide range of factors influenced working practices. Some factors were related to priorities and personal preferences, with work patterns altering as a consequence of marital status, children and caring responsibilities. However, the study also identified a number of structural features within pharmacy that work against women working full time and encourage uptake by women of certain roles within the sector. The lack of family friendly practices, anti-social hours, difficulties accommodating annual leave, and the restrictive legislative framework that necessitates a pharmacist to always be present in a pharmacy, all affected their work patterns.

Weekend working and long hours were unpopular with respondents. Levels of financial remuneration were rated as relatively unimportant. Statements in the Q-method exercise relating to high workloads and pressurised working conditions resonated with respondents. For example, some participants reported working in high-pressured working environments with concern about the effect that workload would have on patient safety. Levels of support staff were important.

Respondents appear to react in two ways to work related pressure. Pressure was associated with an increased number of prescriptions and highest among participants from multiples. This was dealt with by either complaining to management or by moving employer/sector.

Some participants felt that the new pharmacy contract had awakened their interest in pharmacy. In general, respondents were positive about the new

Future research

Female pharmacists from other parts of the country may hold different views.

There is a need to explore the views of a more ethnically diverse group – the majority of respondents were white British – as well as male pharmacist's views.

contract, however, some responses indicated that providing enhanced services added to their workload and made life more difficult.

It was notable that the female participants preferred to work at practitioner level rather than be an owner or work in senior management. A proportion of women choose to work part time or take second pharmacist positions to spend more time with their children.

The majority found CPD confusing and some had difficulty entering CPD online. Interviewees nearing the end of their careers reported they would cease to practice as a consequence of CPD. Some respondents felt that it would be difficult to find time to do CPD and that it would be beneficial to have protected time at work to undertake CPD. However, it seems unlikely that mandatory CPD in itself will deter female community pharmacists from working.

Summary

It is estimated that up to 80% of workers in pharmacy chains are female and yet females remain under represented as owners or senior managers. In addition, females are disproportionately over represented in lower grade hospital jobs and operational level PCT jobs.

This may well be as a consequence of working less hours and broken employment due to childcare responsibilities; however it may also be due, in part, to discriminatory employment practices. Service providers must consider the likely impact of a feminising workforce on the supply of community pharmacists, particularly relevant in light of the move to extend opening hours and increase patient access to services.

Funding: 2004 Sir Hugh Linstead Fellowship - £35,000

Status: Completed July 2006. Due to be published.



Programme Five: Science, Technology and Medicines

Research reviewed:

Realising the Potential of Genomic Medicine - Dr Paul Martin & Michael Morrison, Institute for the study of Genetics, Biorisks and Society, University of Nottingham

Key Facts

The pharmaceutical sector is one of the most important to the UK economy in terms of size, employment and export earnings according to the Association of British Pharmaceutical Industry the sector employed around 180,000 people and generated trade surplus of 3.6 billion in 2003. The potential of these new technologies to improve the likelihood of therapeutic success has driven all major pharmaceutical companies to embrace genomics and has seen their reinvention from predominantly chemistry based firms to enterprises led by the life sciences.

Pharmacogenomics concerned with providing a comprehensive genome wide assessment of the effects of pharmacological agents on gene expression patterns and helps to understand the precise molecular mechanisms involved in causing particular diseases

Pharmacogenetics is the study of the genetic basis of drug response one of the potential advantages lies in matching the natural variation in a persons genetic make up (their genotype) to their response to specific pharmaceutical products. This could result in improved diagnosis.

Many other potential treatments including gene therapy, cancer vaccines and embryonic stem cell therapies are not likely to see significant advances in terms of development of patient treatment over the next 5 years.

Realising the Potential of Genomic Medicine

Dr Paul Martin & Michael Morrison, Institute for the study of Genetics, Biorisks and Society, University of Nottingham

Introduction

Since the sequencing of the first draft of the human genome in 2000 there has been huge interest in the diagnosis and treatment of diseases using genomic medicine.

The report presents an analysis of the main scientific and technical advances in the area of genomic medicine. The authors discuss the prospects for the short and medium term development of these technologies and their potential benefits to patients, the impact on health care professionals and the infrastructure in which they work. In addition, they have identified some of the key social, ethical and regulatory issues and concerns that surround this emerging technology. Nested within the discussion is the broader issue of changes within the wider healthcare environment surrounding the development and use of new drugs and diagnostics.

The main changes and new policy initiatives likely to affect the development, licensing, marketing distribution and use of new medical technology include:

- Changing pharmaceutical industry (globalisation and containment of healthcare costs). In addition, patents on a significant number of blockbuster drugs are close to expiry, prompting the search for new sources of innovative products and increasing investment in molecular biology, biotechnology and genomics.
- Changing pharmaceutical market place (significant shifts in the pricing distribution and marketing of prescription drugs, increased direct to consumer advertising, greater emphasis on over the counter medication).
- Changing NHS (implementation of NSFs, increasing use of health technology, investment in genetic services), the organisation of healthcare that might be needed to accompany the introduction; professional practice and the regulation of new medical technologies.
- Public health policy/social trends. Focus on chronic disease management/ ageing populations.

The report discusses a number of important technologies including biological therapies (therapeutic proteins and monoclonal antibodies, cancer vaccines, stem cell therapy) and the potential benefits for patient groups along side the ethical, legal and social concerns accompanying these emerging technologies.

The authors also introduce pharmacogenetics and pharmacogenomic tests which are likely to have the most significant implications for community pharmacists. They argue that one of the most important consequences of the move towards pharmacogenetics is the prospect of stratifying diseases into better characterised sub-groups of people that are often defined in relation to drug response. Pharmacogenetic information could therefore allow doctors to make a more informed choice about the use of one medicine compared to another in the same drug class. It is likely that new pharmacogenetic medicines designed to act in conjunction with a genetic test will be approved as a package and this has implications for the practice of off label

Implications for Pharmacy practice:

The pharmacy profession can play an important role through:

Enhancing professional training in and the broad area of molecular medicine and being fully involved in the social, ethical and clinical debates that inform the creation of regulations.

Changing professional practice; a new role for pharmacists with greater focus on utilisation of their skills and a move from dispensing medicines to providing an extended range of services.

Development of policies to support innovative health technologies including: strengthening R & D, improve competitiveness, strengthen partnerships between NHS, Industry and academia

prescribing, where doctors give a drug in ways that are not listed on the drug label.

Further implications include:

- the threat to the cornerstone of the pharmaceutical industry, the blockbuster drugs, sold universally to an undifferentiated market.
- the availability of genetic testing to insurance companies could identify patient's that have a poor response to certain drugs and as a consequence they may be charged higher premiums even if they are at a low risk of developing a given illness.
- genetic testing might provide some companies with a powerful marketing tool if they could demonstrate that the medicine was more effective in a particular patient group.
- ethical issues include informing health care practitioners of the patients genotype without consent just by the very nature of the medication prescribed.

Whilst pharmacogenetics could improve patient safety and reduce prescribing costs, without the financial and political support of large pharmaceutical companies there is a real danger of market failure with many valuable tests never being introduced into clinical practice due to lack of resources. Less certain is the extent to which the same technologies will be used to improve safety and efficacy of existing licensed products as this may not be in the commercial interests of large companies.

Summary

It is likely that there will be a continuing, but modest stream of new medicines and diagnostics based on genetics and genomics reaching the market, in particular, therapeutic protein drugs and genetic tests for monogenetic disorders. There may also be a small number of new pharmacogenetic drugs/tests and genetic and biomarker based diagnostics for common conditions. The pharmacy professions response to the challenges surrounding the introduction of this technology could form a model for how it might engage with these innovations more generally.

The emphasis on policy should not simply be on anticipating the impact of new genetic technologies but on helping them come into being in ways that improve public health and enhance the role of health care professionals, in particular this will involve:

- Translating scientific research findings into working technologies and new clinical practices;
- Building NHS capacity and developing new services;
- Creating new technical and organisational infrastructures in such areas as genetic testing;
- Increasing professional knowledge and training; and
- Establishing new governance regimes.

The pharmacy profession can play an important role in each of these areas through greater participation in translation of research and development, involvement in local and national service planning and the design of infrastructure.

If these hopes are realised the development of genomic medicine is likely to have major implications for the future development of healthcare and the

work of all health professional groups in the health service.

Funding: Funded by a grant from RPSGB - £10,000

Published: July 2006

ISBN: 0-9550029-3-1

Ongoing Research

Research reviewed:

Programme 3 – Pharmacy: a profession fit for purpose (Workforce)

Evaluation of the community pharmacy contractual framework: Report 1. Strategic health authority and primary care organisation perspectives - Alison Blenkinsopp, Gianpiero Celino and Christine Bond, Keele University, Webstar health & University of Aberdeen.

Programme 3 – Pharmacy: a profession fit for purpose (Education)

Learning from Innovation in Pharmacy Education Scheme:

- *How do pharmacy students learn?* - Dr Geoff Harding, University of London
- *Learning how to teach the “final check”* - Dr Imogen Savage, University of London
- *A study to develop and test a new method of assessment of communication skills of pharmacy undergraduate students: the patient as the assessor* - Mrs Dawn Bell & Mrs Adele Mackellar, South Manchester University Hospitals NHS Trust
- *An investigation into which factors affect the perceived success of the experiential community pharmacy visits in year one of the MPharm programme* - Angela MacAdam, University of Brighton
- *Evaluation of the current and future provision of pharmacy undergraduate research projects* - Professor David Mottram, Liverpool John Moores University
- *Using videoed teaching OSCEs to aid student assessment* - Miss Denise Taylor, University of Bath
- *E-learning for sharing across medical, health and social care undergraduate students: development, evaluation, assessment and dissemination of an e-learning inter-professional module* - Dr Lesley Diack, Robert Gordon University
- *Developing and evaluating an E-network of pharmacists undertaking supplementary prescribing training and their linked designated medical practitioners, which is supported by academia, aiming to enhance the period of learning in practice* - Dr Derek Stewart, Robert Gordon University
- *Current and future methods for teaching and assessment RPSGB fitness to practise procedures* - Dr Dai John, Cardiff University in collaboration with Aston University, Bradford, University and the Robert Gordon University

Programme 3 – Pharmacy: a profession fit for purpose (Ethics)

Core values and professional ethics in pharmacy - Ailsa Benson, Alan Cribb and Nick Barber, King's College London and the School of Pharmacy, University of London.

The nature of ethical dilemmas and medical legal issues confronting pharmacists - Zuzana Deans & Angus Dawson, School of English and Philosophy, Keele University.

An Ethical Analysis of Public Health Interventions in Pharmacy Practice – Rebecca Shah & Angus Dawson, School of English and Philosophy, Keele University (Arts and Humanities Research Council Collaborative doctoral award 2005/2006)

Workforce

Evaluation of the community pharmacy contractual framework: Report 1. Strategic health authority and primary care organisation perspectives

Alison Blenkinsopp, Gianpiero Celino and Christine Bond, Keele University, Webstar health and University of Aberdeen

The project aims to explore the implementation of the new contractual framework for community pharmacy. The planned evaluation focuses on three areas: implementing enhanced and advanced services; outcomes for staff and quality issues. The researchers will also gather data on patient and service user perspectives on community pharmacy services.

This research gives us an opportunity to see how things are changing but also to identify things that are helping and hindering implementation and further development. The project commenced in early 2006 interim results are expected in November 2006 and a final report by June 2007.

Funding: RPSGB - £140,000

Status: Due to complete June 2007

Pharmacy workforce: a longitudinal study of careers amongst new pharmacy graduates

Dr Karen Hassell, Sarah Willis, Phil Shann, Centre for Pharmacy Workforce Studies, School of Pharmacy, University of Manchester

Attitudes and motivations of students about to enter the pharmacy profession will have a huge influence on the way pharmacy is practiced in the future, and on the way in which services are delivered. Similarly, how these attitudes change over time and why, will also affect how service delivery is sustained. Surprisingly little UK-based research has explored this area and no studies have followed the same group over a period of years to see how expectations of a career in pharmacy and career intentions can change over time. There is some evidence that careers in pharmacy vary with gender, age, life events and ethnicity, however, little is known about why this variation occurs or at what point these variables have an effect on careers in pharmacy.

The rationale for conducting this particular longitudinal study is therefore to address this gap in pharmacy workforce knowledge. The study follows a group of 2006 graduates from schools across the UK at varying points in their undergraduate education, pre registration training and following registration. The results of an Early choice questionnaire (3rd year of 4 year degree) is available to download from the Royal Pharmaceutical Society's Website. The results of the Preregistration questionnaire (end of the 4th year) are summarised in this review and will be published in the next reporting period.

Funding: RPSGB - £400,000 (2004-2009)

Status: due to complete 2009. Interim reports will continue to be published (see main review).

Education

The Pharmacy Education R & D Reference group chaired by Professor Peter Noyce and represented by Schools of pharmacy and academic institutes, members of the Royal Pharmaceutical Society and pharmacists from the community and hospital sectors, was a group specifically setup to address the issue of pharmacy education. In particular, the content and delivery of pharmacy education and whether this is producing the type of pharmacist that will be required in the future.

The Pharmacy Education R&D Reference group report⁵ identified that while several schools of pharmacy had been involved in innovation in education provision – integrated curriculum, workplace learning, inter-professional learning - on the whole the learning from these developments were not shared by pharmacy

⁵ *Making Pharmacy Education Fit for the Future* (2004) Report of the Pharmacy Education R & D Reference Group. Royal Pharmaceutical Society of Great Britain. ISBN: 0-9544961-2-4

academics. The report “MPharm Programmes: Where are we now?” has provided a baseline of the provision of undergraduate pharmacy education and identified examples of innovation.

The group concluded that there is a need to undertake research on developments in pharmacy education, both to contribute to the evidence base and to develop research capacity in this area. In response to this need to develop a learning and reflective culture in pharmacy education and to encourage academics to evaluate and review developments in education provision, the Pharmacy Practice Research Trust funded a series of small-scale studies designed to encourage pharmacy academics to evaluate and explore aspects of pharmacy education.

A stakeholder event to present the interim findings and outcomes from the sponsored research has been planned for December 2006 with a compendium of presentations published thereafter. The projects funded by the Pharmacy Practice Research Trust to address the identified gaps in knowledge on education are shown below:

How do pharmacy students learn?

Dr Geoff Harding & Professor Kevin Taylor, School of Pharmacy, University of London

Changes to the pharmacist’s activities as a result of developing health care policy are reflected in the undergraduate curriculum. Part of these changes includes the introduction of material to equip pharmacists with new skills and knowledge for their new roles, particularly in medicines management and public health. We know little of either how students learn these topics, or how effective they perceive their learning to be. Whilst there are exemplars of innovative integrated learning styles within medical education which integrate the biomedical and social sciences, there are no comparable approaches in problem based learning. A better understanding of student pharmacists’ learning strategies would inform directly the development of the pharmacy curriculum to ensure students are effectively equipped for professional practice in the 21st century.

Funding: RPSGB - £5,000

Learning how to teach the “final check”

Dr Imogen Savage, University of London

The accuracy check which is carried out at the end of the dispensing process is an important safety net, trapping many dispensing errors before they reach the patient. However, the “final check” is not a perfect process. Some errors are not detected before they leave the pharmacy, and some of these errors cause harm. The need for interventions to minimise dispensing errors is widely acknowledged but to date emphasis has been on expensive new technologies, such as automated dispensing and product authentication systems.

Learning to check is a skill which transfers into many areas of working life. An alternative approach is proposed, that of an educational intervention, delivered through e-learning, which would help pharmacy undergraduates to learn and develop a “best practice” approach to accuracy checking.

Funding: RPSGB - £4,817

A study to develop and test a new method of assessment of communication skills of pharmacy undergraduate students: the patient as the assessor

Mrs Dawn Bell & Mrs Adele Mackellar, South Manchester University Hospitals NHS Trust

From January 2005 practicing pharmacists have been required to maintain a practice portfolio in order to demonstrate continuing professional development (CPD) and to maintain registered status as a pharmacist. Reflection on practice is an integral part of the CPD cycle.

This study sets out to address some of the questions raised by examining students’/trainees’ and tutors’ perceptions of the professional practice portfolios as learning and assessment tools and as a record of achievement. It will also attempt to identify areas of good practice in portfolio assessment of pharmacy students that may be disseminated nationally.

Funding: RPSGB - £5,000

An investigation into which factors affect the perceived success of the experiential community pharmacy visits in year one of the MPharm programme

Angela MacAdam, University of Brighton

At present, all 1st year MPharm students are sent on a community pharmacy experiential visit. Anecdotally, some students feel they gain a great deal from the visits while others claim they are less useful. It may be that not all students need the experiential visit as they have a vast amount of previous experience. Alternatively, it may depend on the type of pharmacy visited or how busy the pharmacy is. It may depend on how the student interacts with the pharmacist on an individual level. It may be necessary to work at 'tailoring' the experience to individuals.

This study intends to identify factors which could maximise the educational value of the experiential visits.

Funding: RPSGB - £4,782

Evaluation of the current and future provision of pharmacy undergraduate research projects

Professor David Mottram, Liverpool John Moores University

The governing body for higher education in the UK, the Higher Education Funding Council (HEFC), determined that the final year of 4-year first degree masters courses should be taught at a Masters level (Credit and HE Qualifications, 2001). There is anecdotal evidence that final year MPharm projects are operated and assessed in very different ways between schools of pharmacy and that the credit rating for project modules varies widely. The proposed study will attempt to quantify these differences and to provide a qualitative evaluation of the current and future value of projects. The outcome of this study will have a number of benefits: i) compare the advantages and limitations of project work compared with other final year subjects; ii) allow a sharing of experiences and best practice between schools of pharmacy; iii) provide an informed and rational overview of project work for RPSGB accreditation panels; and iv) provide a forum for discussion of future developments.

Funding: RPSGB - £5,004

Using videoed teaching OSCEs to aid student assessment

Miss Denise Taylor, University of Bath

With the development of a Supplementary Prescribing Programme came the development challenges in assessing competency and professionalism. Prescribing skills in mechanistic terms has been taught at undergraduate pharmacy level for some years. What is less commonly taught are key skills in the consultation process. These new clinical skills can only appropriately be measured by observing a student in an experiential prescribing-based setting. To ensure that the examination process is equitable and standardised a series of OSCEs have been produced which include the examination of communication, consultation and physical examination skills.

Funding: RPSGB - £4,988

Dr Lesley Diack, Robert Gordon University

Existing research on e-learning and the use of the support e-networks is limited. Although many studies have taken place and are currently ongoing nationwide in the area of shared learning in health care there is little evidence available on the benefits of shared learning using e-learning in the area of undergraduate healthcare education. This initiative aims to promote pharmacy to other healthcare professionals through shared learning and will lead to better patient care through more effective team working. The use of this module would also increase the awareness of pharmacy skills by other

healthcare professions and would integrate the students' existing experiences to achieve better inter-professional practice teamwork and collaboration in the future.

Funding: RPSGB - £5,000

Developing and evaluating an E-network of pharmacists undertaking supplementary prescribing training and their linked designated medical practitioners, which is supported by academia, aiming to enhance the period of learning in practice

Dr Derek Stewart, Robert Gordon University

Supplementary prescribing is defined as 'a voluntary partnership between an independent prescriber and a supplementary prescriber to implement an agreed patient-specific clinical management plan with the patient's agreement'. This proposal is an initial exploration of the period in practice from the perspectives of the pharmacists and designated medical practitioners, to allow identification of positive and negative experiences.

Funding: RPSGB - £5,002

Current and future methods for teaching and assessment RPSGB fitness to practise procedures

Dr Dai John, Cardiff University in collaboration with Aston University, Bradford University and the Robert Gordon University

Professional discipline/fitness to practise is undergoing significant change e.g. CHRE (Council for Healthcare Regulatory Excellence), the proposed new Section 60 Order and post-Shipman etc. The research examines preregistration knowledge of students of professional discipline and the teaching of professional discipline/fitness to practise issues in schools of pharmacy.

Funding: RPSGB - £5,000

Ethics PhD Studentships

Ethics is an area of research which is significantly under developed in pharmacy practice and was thought appropriate to be progressed through academic scholarship. Two students began their Ethics PhD Studentships in October 2002 at King's College London and Keele University.

Core values and professional ethics in pharmacy

Ailsa Benson, Alan Cribb and Nick Barber, at King's College London and the School of Pharmacy, University of London

This studentship will explore core values and professional ethics in pharmacy and is hosted by the Department of Education and Professional Studies at King's College London and the School of Pharmacy, University of London. This PhD student is supervised by Alan Cribb, Director of the Centre for Public Policy Research (DEPS) and Nick Barber, Director of the Centre for Practice and Policy (SOP).

Funding: RPSGB - £63,000 + £4,000 extension

Status: due to complete late 2006

The nature of ethical dilemmas and medical legal issues confronting pharmacists

Zuzana Deans & Angus Dawson, School of English and Philosophy, Keele University

The second PhD studentship explores the nature of ethical dilemmas and medical legal issues confronting pharmacists from across the profession performing traditional and innovative roles. This four year studentship is based in the School of English and Philosophy at Keele University and supervised by Dr Angus Dawson with support from a multidisciplinary panel.

Funding: RPSGB - £75,000

Status: due to complete mid 2007

In addition to the work already commenced, a collaborate doctoral award is due to start in 2006:

An Ethical Analysis of Public Health Interventions in Pharmacy Practice

Rebecca Shah & Angus Dawson, School of English and Philosophy, Keele University

Much traditional health care ethics is concerned with the relationship between the individual patient and healthcare practitioner. The published literature on the topic of pharmacy ethics is remarkably small, but what exists, also tends to concentrate upon ethical issues related to individual patients. However, public health is concerned with the health of whole populations. Public health ethics, roughly the ethical issues arising from thinking about health at the level of groups or populations rather than individuals, is an emerging area of interest in healthcare ethics with a growing literature. This project is timely for two reasons. Firstly, little has been written about public health ethics related to pharmacy, and, secondly, the role of community pharmacists will have to be increasingly involved in public health interventions as a result of the proposals in the new NHS white paper on public health and the requirements of the new contractual framework for community pharmacy. The aim of this project is to systematically explore and analyse the ethical issues that arise in relation to public health interventions within the field of current and future pharmacy practice.

Funding: Pharmacy Practice Research Trust - £5,000. Standard tuition fees and maintenance grants for the PhD student will be covered by the AHRB, plus £500 p.a.

Status: due to complete mid 2009

Galen Awards (Ongoing)

Living with anti dementia medicines – patient and carer perspectives

Denise Taylor, University of Bath

Until recently there has been no licensed pharmacological treatment available for the relief of dementia syndromes. This meant that carers generally provided the majority of primary health care provision. With the licensing of the cholinesterase inhibitors, Donepezil (Aricept) in 1997, Rivastigmine (Exelon) in 1998 and Galantamine (Reminyl) in 2000 for mild to moderate Alzheimer's disease and the NMDA Receptor Antagonist Memantine (Ebixa) in 2002 for moderately severe to severe disease, the possibilities of symptomatic treatment for dementia were greatly improved. However, due perhaps to unfamiliarity with treating with dementia and misconception of the beneficial therapeutic effects of these agents, prescribing rates were poor until the National Institute for clinical excellence (NICE) produced prescribing guidance in January 2001.

Controversy still continues with a consultation document published by NICE in 2005, more recently updated in May 2006 which suggests that although these agents are clinically effective in controlling the symptoms of Alzheimer's disease they should only be prescribed for moderate disease because of their cost.

The ultimate aim of the study is to gain an understanding of the aspects that are important to both people with dementia and their carers when receiving treatment with an anti dementia agent. From this it is hoped that a medicines management care plan can be developed to pro actively aid treatment.

This research study will provide qualitative and quantitative evidence of the perceived effectiveness of medicines for dementia in a community setting by the person with dementia, their carer and supporting health care professionals. It is hoped that the results will provide valuable information for communicating with people newly diagnosed with dementia at the start of proposed treatment with medicine and information to support education and training of healthcare professionals involved in prescribing which is poorly provided in the community setting. The study forms the basis of a doctoral thesis.

Funding: 2005 Galen Award - £8,170

Status: due to complete July 2007

Sir Hugh Linstead Fellowships (Ongoing)

Investigation into the quality and standard of pharmaceutical care provision to drug misusers and development of good practice model

Rachel Britton, University of Bath

Community pharmacy involvement with drug misusers in the South West of England appears to have increased since the last major survey in England was carried out in 1995. Since the last survey major policy changes have occurred including the establishment of the National Treatment Agency in 2001 whose remit is to ensure that standards of drug treatment services across England are consistent. However, there is no model of care specifically for community pharmacy services to drug misusers. This work is part of a larger study to inform a specific model of care for community pharmacy.

The research will attempt to quantify the level of a pharmacists knowledge on aspects of drug misuse. The experiences of service users of pharmacy drug misuse services and their views of the extension of such services will be sought, particularly:

- What is the range of attitude and knowledge of pharmacists who provide services to drug misusers?
- What are the views and experiences of pharmacists, who provide drug misusers services and the service users who use the services and how can these services be improved and developed?

- What are the barriers and opportunities to developing community pharmacy services to drug misusers?
-

Funding: 2003 Sir Hugh Linstead Fellowship - £13,000

Status: due to complete mid 2007.

Why is pharmacy based needle exchange failing to expand in response to increasing need and how can this problem be overcome?

Jennifer Scott, University of Bath

Needle exchange is a key public health concern. Transmission of HCV amongst the injecting drug population is a significant and growing burden of care. Community pharmacists have the potential to play a significant role but evidence suggests that their level of involvement is not enough. Concern is growing for the increasing number of HCV among IDUs. The study aims to ascertain:

- Why has the number of pharmacies providing a needle exchange service failed to increase despite the growing number of injecting drug users and concerns about hepatitis C transmission?
- What can be done to promote the expansion and development of pharmacy based needle exchanges to meet the needs of public health?

In addition the research will seek to examine:

- What prevents pharmacists from starting to provide needle exchange services?
 - Why do pharmacists stop providing needle exchange services?
 - What impact does the termination of pharmacy based needle exchange services have on local drug injectors and local specialist drugs services?
 - What are the training and support needs of Pharmacy Based Needle Exchange providers and potential providers?
 - What are the barriers to the development of needle exchange services within large multiple community pharmacy companies and how can these be overcome?
-

Funding: 2005 Sir Hugh Linstead Fellowship - £5,000

Status: due to complete May 2007

The role of the Welsh language in community pharmacy service provision in Wales

Dr Louise Hughes, Welsh School of Pharmacy, Cardiff University

In Wales there are two official languages, Welsh and English, a fact recognised by a number of acts including the Welsh Language Act of 1993 which determined that the two languages be treated on a basis of equality. Thus all sectors of the national health service in Wales have a statutory duty to provide services through the medium of both Welsh and English. Community pharmacy falls outside this remit, although in 2004 the council of RPSGB agreed the recommendation that a Welsh language scheme should be included.

The Welsh language is however, more than a legal or political issue – it is essential for effective communication for a considerable proportion of the Welsh population. The study aims to investigate the views of pharmacists in Wales to ascertain at the local level the need for information in the Welsh language.

Funding: 2005 Sir Hugh Linstead Fellowship - £5,000

Status: due to complete early 2007

Research Training Bursaries (Ongoing)

Estimating the impact of pharmacogenetics on effectiveness and cost effectiveness of antipsychotic drugs

Majad Hussain, Oxford University

Funding awarded to support an MSc in evidence based health care through Oxford University with a final dissertation aimed at Estimating the impact of pharmacogenetics on effectiveness and cost effectiveness of antipsychotic drugs

The MSc will provide additional skills required for undertaking academic health care research including advanced systematic reviews, undertaking RCTs and qualitative research approaches.

Funding: 2003 Research Training Bursary - £12,150

Status: due to complete March 2007

A comparison of health beliefs on the menopause and its treatment in women experiencing menopausal symptoms and community pharmacists (MSc in Health Psychology)

Anita Sharma, University of Bath

This study will examine the differences and inter relationships between menopausal health beliefs in a group of women experiencing menopausal symptoms and a group of community pharmacists. The study will also examine treatment adherence for menopausal women and self efficacy beliefs in using hormone replacement therapy and health beliefs.

Funding: 2005 Level 3 Research Training Bursary - £38,160

Status: due to complete September 2006

Patients prescribed with antidepressants: their understanding of their medication and compliance with treatment

Jessica Purkiss, NoReN/University of Northumbria

Funding awarded to undertake a course in research methodology and survey design through NoReN (Northern Primary Care Research Network) hosted through the University of Northumbria. In addition to the academic course, and utilising the course content, the award supports the undertaking of a research project around *patients prescribed with antidepressants: their understanding of their medication and compliance with treatment*.

Funding: 2005 Level 1 Research Training Bursary - £4,985

Status: course complete, research due to complete 2008

Investigation of the possible correlation between fluctuating INR levels and anxiety across patients from two PCTs

John Hall, University of Sunderland

Funding awarded to undertake MPhil at the Graduate Research School, University of Sunderland. The formal academic content includes ethical and philosophical issues in research, qualitative and quantitative research methodology and critical appraisal techniques. *The proposed research project will investigate the possible correlation between fluctuating INR levels and anxiety across patients from two PCTs.*

Funding: 2005 Level 2 Research Training Bursary - £12,000

Status: due to complete 2008

The provision of medicines use reviews (MURs) by community pharmacists in the first year of the pharmacy contract

Nazmeen Khideja, Aston University

Funding awarded to upgrade from a diploma to an MSc in Clinical Community Pharmacy through Aston University. This is a new course with the objective of developing a comprehensive therapeutic knowledge base for pharmacists. The proposed research project will be based around *the provision of medicines use reviews (MURs) by community pharmacists in the first year of the pharmacy contract*.

Funding: Level 2 Research Training Bursary - £4,500

Status: due to complete June 2007.

Grant making in 2005/06

2006 Practice Research Awards

The research award and research training bursary panels meet bi-annually to review applications for the bursaries and awards and to review progress. The panels are comprised of two Trustees and three external academics with a range of experience and expertise.

Applications were invited for the 2006 Practice Research Awards in January 2006. Following a review, shortlisting and interview the Research Awards Panel made the following recommendations for funding:

2006 Galen Awards

Improving medication safety (PhD)

Tabassum Jafri, Engineering Design Centre, Cambridge University Engineering Department

The study aims to address several research questions:

- Can a systems model of medication safety be developed?
- Is it possible to apply risk assessment methods to identify, analyse and evaluate hazards/risks to medication safety?
- What risk management strategies can be developed from the findings to improve patient safety?

Medication errors outside of the immediate impact on patients have severe moral, political and financial implications for health care systems. According to the Department of Health medication errors cost the NHS £500 million a year in additional days spent in hospital. This rises further when the cost of litigation and compensation are considered. The systems approach looks at errors beyond the individual involved to factors that contribute to error to prevent occurrence. The project aims to understand medication errors from a systems perspective and to promote evidence based safety. Risks across primary and secondary care will be examined. It is proposed that this will provide a comprehensive view of medicines use and consequently will help to begin to bridge the gap between system boundaries that currently prevent effective solutions to medication error.

Funding: £6,000

Qualitative research methodology training

Jasmin Widmann, School of Pharmacy and Pharmaceutical Sciences, University of Manchester

It was recommended that Jasmin receive £2,000 to undertake qualitative research methodology training to support her in her PhD on *The perceptions of adolescent and adult kidney transplant patients towards the risks and benefits of drug therapy*.

Qualitative research methodology training

Dr Adam Mackridge, School of Pharmacy and Chemistry, Liverpool John Moores University

It was recommended that Adam receive £2,000 to undertake qualitative research methodology training to develop his skills and enhance his prospects so that he might contribute to the development of community pharmacy to best meet the needs of its users, through being an active researcher with a strong focus on current practice.

2006 Sir Hugh Linstead Fellowships

Patient centred outcomes from medicines use review (MUR)

Gianpiero Celino, Director, Webstar Health

This project builds upon one component of the new community pharmacy contractual framework (CPCF), the evaluation of medicine use reviews. The CPCF evaluation includes two focus groups with patients to obtain feedback on patients' experience of MUR which will contribute to the evaluation alongside feedback from pharmacists and GPs.

The study will use the data from these patients focus groups for a separate and additional purpose which is to identify processes and outcomes that are important to patients. This information will then be used in a two stage design involving conducting nominal groups with patients, then developing, validating and testing a patient survey tool to capture the patient experience of the MUR.

The aim of the study is to develop a tool to measure patients experience of and satisfaction with, their medicines use review with the community pharmacist. The research questions will be:

- What do patients perceive as the purpose of the MURs?
- What are patient's expectations of MUR?
- What outcomes do patients wish to get from MURs?
- To what extent do these outcomes converge with the stated objectives for the MUR service?
- How can we measure the experience of patients using a questionnaire?

The importance of MUR to the community professional cannot be understated, MUR is the first nationally commissioned service that is not directly concerned with the supply of medicines but is a cognitive service that makes use of core knowledge and skills previously recognised as being under utilised.

Funding: £35,000

Medicines use reviews: what is their effect on patient self reported adherence

James Desborough, School of Chemical Sciences and Pharmacy, University of East Anglia

The primary aim of this study is to determine the effect of medicine use review (MUR) on patient self reported adherence and satisfaction with information about medicines. Medicines use reviews, a nationally specified service in the contractual framework for community pharmacy, aim to improve patient knowledge and use of their medicines. Medicines Partnership identified three essential components to concordance: i) Patients have enough knowledge to participate as partners; ii) Prescribing consultations involve patients as partners; and iii) Patients are supported in taking medicines. If MURs are to survive, their benefits to patients must be measured and reported. The research may also present the opportunity to identify areas in the pharmacists consultation process which have potential for improvement and may help to inform professional practice and service development.

Funding: £5,000

2006 Research Training Bursaries

No awards for were made in 2006.

Events

Events held 2005/06:

Medicine Taking: Learning from Patient Perspectives

7th September 2005, Royal Society of Medicine

Patient choice and shared decision making between health professionals and patients about treatment decisions are key themes in current health policy. The ideas of concordance and medicines partnership fit extremely well within this overall policy direction. However, there remains some uncertainty about the most effective ways to implement patient choice and partnership on a practical level within the various policy streams.

A significant amount of research has been completed over the past two years, some through the Pharmacy Practice Research Trust and some through the Medicines Partnership programme, exploring how patients view their involvement in decisions about treatment and practical ways in which patients can be partners in treatment decisions and better supported in medicine-taking. This event explored the findings from these research projects in relation to how they can inform the development of effective partnerships in the area of medicine taking.

Realising the potential of genetic medicine

3rd November 2005, King's Fund

This smaller, roundtable event was attended by health professionals and academics. The purpose of the meeting was to identify the likely implications of innovation in genetic medicine for healthcare policy, practice and to define key research questions that the Trust might address as part of its *Medicines and People Programme*. The discussion was informed by a review paper which was prepared for the Trustees by Paul Martin and colleagues at the University of Nottingham. Paul Martin opened the meeting with a summary of the key findings from the project followed by a policy commentary by Professor Andrew Webster, Professor of Sociology of Science and Technology and Director of SATSU, University of York. Open discussion followed, chaired by Sue Ambler.

The group participated with gusto in the discussion session. Areas for future work were discussed and a number of directions were identified for further exploration. In particular it was agreed that further work to develop scenarios around how genetic innovation might be taken up by pharmacists/in pharmacy.

Patient Choice in Mental Health

8th November 2005, Portcullis House

The Government's policy drive on increasing choice for people across the whole range of NHS services includes extending and improving the choices available to patients with mental health problems. This takes place against the development of policies such as NICE guidance, the mental health National Service Framework and further proposals for a mental health bill.

The Concordance Fellows research on lay and professional perspectives of depression explores the issue of partnership for mental health patients and their needs for information to support decision making. This event explored the findings from this research in relation to the implementation of the choice agenda in mental health services.

Career Expectations Amongst Pharmacy Undergraduates - Are they realistic?

27th March 2006, British Medical Association

The first set of published results from the 5 year Longitudinal Cohort study on pharmacy careers was launched at this event. The purpose of this meeting was to share these results with staff in the schools of pharmacy, employers and others, and to provide an opportunity for discussion of the findings and the potential implications.

The meeting was a great success and resulted in some lively break out sessions which has subsequently fed back into the Longitudinal Cohort study and generated a great deal of interest both in the Pharmacy community and the wider health professional context.

Practice Research Awards Seminar

Natural History Museum, 12th May 2006

The purpose of this event was to highlight the diversity of research currently being carried out in pharmacy by showcasing the contribution that the Galen Award, Sir Hugh Linstead Fellowship and Research Training Bursary holders have made. The event illustrated how these awards and bursaries are contributing to a growing body of pharmacy practice research, the development of pharmacy practice and, helping to support individual careers.

Patient choice & access; pharmacists prescribing

14th June 2006, King's Fund

The report *Exploring Innovation in Pharmacy Practice: A Qualitative Evaluation of Supplementary Prescribing by Pharmacists* demonstrates some of the ways in which patients are benefiting from pharmacists taking on supplementary prescribing responsibilities. It has also revealed some areas where we could do more to facilitate improved access and patient benefit. This event was designed to share some of the findings and explain how the benefits revealed could be increased as more professionals take on the important clinical role in prescribing.

Forthcoming Events 2006/07:

Learning from Innovation in Pharmacy Education

6th December 2006, Royal Society of Medicine

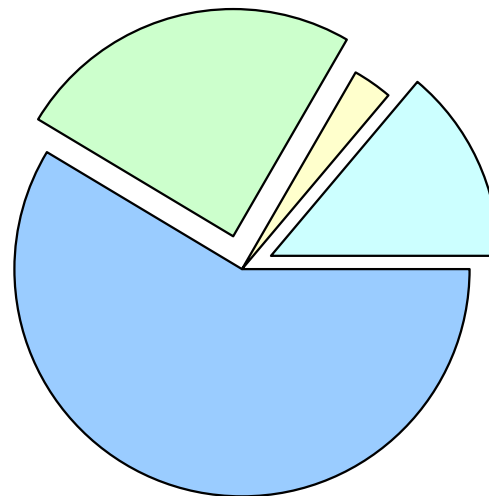
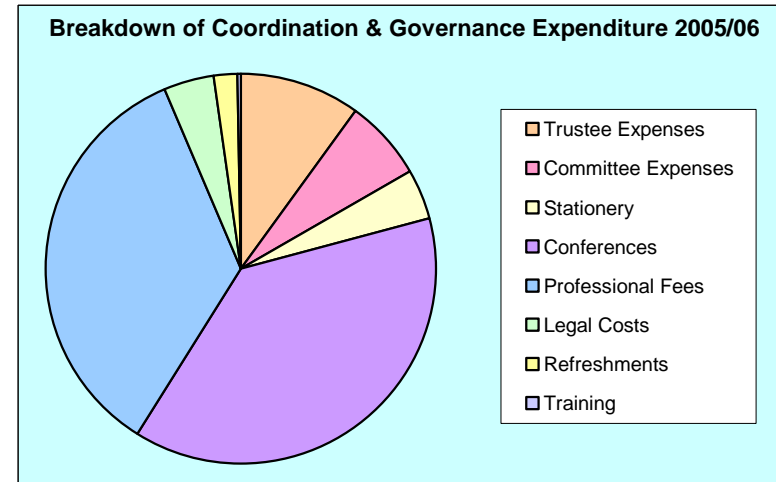
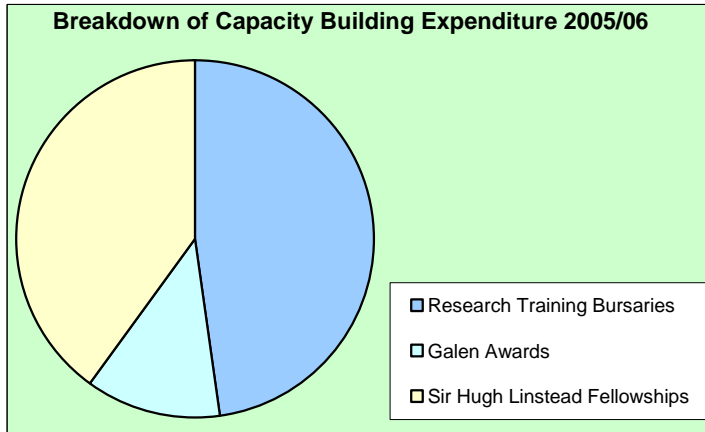
An all day seminar to give those involved in the "Learning from Innovation in Pharmacy Education" mini project scheme an opportunity to evaluate and review developments in education provision and share their findings with those working in education and related fields.

Implementation of the New Contractual Framework for Pharmacy in England & Wales

10th May 2007, Royal College of Physicians

A one-day multi-stakeholder workshop/event. The day will be run using a combination of short inputs and table discussions structured around a set of questions arising from the findings to date of the research *Implementation of the New Contractual Framework for Pharmacy in England & Wales*.

Financial Summary



Pharmacy Practice Research Trust Expenditure 2005/06

- RPSGB Research Strategy - £239,561
- Capacity Building - £100,285
- Partnership Funding - £11,768
- Coordination & Governance - £56,598