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## INTRODUCTION

This booklet contains the abstracts of presentations and posters made at the 13<sup>th</sup> Health Services Research and Pharmacy Practice Conference hosted by Keele University on 2<sup>nd</sup> and 3<sup>rd</sup> April 2007.

The abstracts are also available on the conference website: [www.hsrpp.org.uk](http://www.hsrpp.org.uk)

## TIMETABLE

The presentations and posters relating to these abstracts will be presented in the following parallel sessions, at the Medical School, Keele University:

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## **Medicines Use Reviews Under the New Community Pharmacy Contract**

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### **Background**

Medicines use reviews (MUR's) are an advanced service in the new contractual framework for community pharmacy.<sup>1</sup> The aim of this study was to explore early experiences of implementing this new intervention in community pharmacy.

### **Methods**

Forty four semi-structured interviews were undertaken with Primary Care Trust (PCT) leads, community pharmacists and Local Pharmaceutical Committee (LPC) representatives across 10 PCTs selected as case study sites. Data were transcribed verbatim and analysed by repeated reading of the transcripts by two researchers.

### **Results**

Three key issues regarding the way MUR's had been implemented were identified. First, activity in independent pharmacies seemed to be constrained by the pharmacists' difficulty in fitting MUR's into their daily activity and the cost of employing locums to increase capacity. Second, strong concerns were voiced that pharmacy multiples were pressurising employees to maximise the number of MUR's, possibly compromising quality of care in the interests of quantity. Third, although MUR's were designed to improve patients' concordance and understanding of medicines, pharmacists were making clinical recommendations seen as inappropriate by PCTs and GPs.

### **Discussion**

The findings suggest a divide between independent and multiple pharmacies in the way MUR's have been prioritised and incentivised. Further training for pharmacists on the appropriate use of MUR's may be necessary to ensure that they are successfully embedded into community pharmacy service provision and fulfil their potential to improve patients' use of their medicines and enhance community pharmacists' roles.

### **References**

- <sup>1</sup> Department of Health. The National Health Service (Miscellaneous Amendments Relating to Prescribing, Pharmaceutical Services and Local Pharmaceutical Services etc.) (England) Directions 2006

## **A Report on a Focus Group Discussion on the Local Implementation of Medicines Use Reviews (MUR's)**

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### **Introduction**

HERPRN is a pharmacy research network in England, providing support and research training enabling community pharmacists and their staff to undertake practice based research. The research focus is on quality improvement in the framework of the New Pharmacy Contract especially service evaluation, audit, service user experience and training needs.

Undertaking MUR's is an advanced service provided by community pharmacists as part of the pharmacy contractual framework. The aim of the service is to achieve patient adherence in their medicine taking.

### **Objectives**

To gain feedback from an exploratory discussion with local community pharmacists about their experiences of undertaking MUR's retrospectively during a one year period. To generate further research questions on MUR provision.

### **Research method**

As part of an educational meeting hosted by HERPRN, a purposive sample of pharmacists representing multiples, independent and locum pharmacists was convened for a focus group to discuss MUR's. The focus group was moderated by a non-pharmacist independent qualitative researcher as well as being co-moderated by the presenting author.

### **Preliminary findings**

- Pharmacists would welcome clarification about the extent of their clinical input and responsibilities following an MUR.
- Redesigning the form would make it more user friendly.
- Logistically, pharmacists experienced difficulty in maintaining normal pharmacy services and providing an MUR service.
- Pharmacists felt that inadequate information was given to GPs and other health professionals about MUR's, which they felt had impacted on the quality of communication and follow-up on action plans.
- People who would benefit from MUR's (e.g., the housebound) are not easily provided for within the present system.

### **Conclusion**

Local pharmacists believe that further research into MUR provision will be of benefit. Pharmacists and prescribers attitudes and experiences should be further explored.

### **Acknowledgements**

Commissioned and funded by the Hull and East Riding Pharmacy Research Network (HERPRN)

## **Pharmacists' Attitudes & Factors Affecting the Numbers of Medicines Use Reviews (MUR's) Performed**

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### **Background**

This study aimed to highlight pharmacists' attitudes towards the MUR service and to investigate factors that may influence the numbers performed.

### **Method**

A questionnaire was distributed to a sample of 280 accredited pharmacists during April and May 2006 within one pharmacy chain.

### **Findings**

The response rate was 60% (167/280). 27% of the respondents had not performed any MUR's, 43% had conducted between 1-14 and 31% over 15. 93% were in agreement that the service is a "great opportunity for an extended role for community pharmacists". 93% concurred that "the MUR service will improve poor or ineffective use of the patients' medicines". Time, support staff, perceived GPs response and consultation areas were identified as barriers to performing MUR's.

Pharmacists reporting an accredited consultation area (75%) performed significantly more MUR's than those who did not. 'Store based' pharmacists performed significantly more MUR's than 'Relief' pharmacists but not when compared with 'Managing' pharmacists. Full-time pharmacists performed significantly more MUR's than part-time pharmacists.

### **Discussion**

This study demonstrates that pharmacists perceive MUR's to be of value to patients and an opportunity for an extended role. This study supports other research that has highlighted barriers surrounding the service<sup>1</sup>. The number of MUR's performed appears to be affected by the presence of a consultation area, the pharmacists' job role and whether they work full or part-time. Issues surrounding consultation areas and support for relief and perhaps locum pharmacists may need addressing to ensure pharmacists make full use of the opportunities presented by this service.

### **References**

- <sup>1</sup> Ewen, D., Ingram, M.J., MacAdam, A. The uptake and perceptions of the medicines use review service by community pharmacists in England and Wales. *Int J Pharm Pract* 2006; 14; 61-62.

## **General Practitioners' Opinions of Aspects of the Availability of Over the Counter Simvastatin**

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### **Introduction**

Simvastatin was reclassified from prescription-only in Great Britain in summer 2004 at 10mg daily for those at moderate (10-15%) 10-year risk of a first coronary event. Concerns were expressed particularly by the medical profession.<sup>1</sup> Opinions of community pharmacists (CPs) regarding over the counter (OTC) Simvastatin have been published.<sup>2</sup> This study investigated general practitioners' (GPs) opinions by analysis of questionnaire open comments.

### **Method**

Pre-piloted postal questionnaires were sent during winter 2005 for completion by a GP at all 1,050 primary care practices in Scotland (40 used in pilot and excluded from analysis). The questionnaire comprised closed questions with space for open comments. Two reminders were sent. Open comments were transcribed and reviewed by two pharmacy practice researchers for identification of key themes using content analysis.<sup>3</sup>

### **Results**

The response rate was 45.7% (462/1,010). The majority 68% (314/462) wrote one or more comments. Emergent themes largely described GP concerns and included: inappropriate requests from 'worried well'; lack of full CVD risk assessment; health promotion provision; limited evidence base for the OTC dose; monitoring inadequacies, need for improved GP/CP communication, issues relating to patient information transfer such as patient confidentiality; policy implementation and overlap of role boundaries.

### **Discussion**

Many themes common with CPs<sup>2</sup> were identified. Uniquely, GPs highlighted patient confidentiality, policy implementation and role boundaries. Patient demand, adherence and licence restrictions did not feature in GP themes in contrast to previous work<sup>2</sup>. Professional perspectives should be explored further using qualitative methods. This may promote better understanding of roles and responsibilities.

### **References**

- <sup>1</sup> Gibson L. Moves to sell statins over the counter raises concerns. *Brit Med J* 2004; 328:1221
- <sup>2</sup> Hansford D, Cunningham S, John DN, McCaig D, Stewart D. Community pharmacists' views, attitudes and early experiences of over-the-counter Simvastatin. *Pharmacy World & Science*, *in press*
- <sup>3</sup> Neuendorf, K. A. (2002). *The Content Analysis Guidebook*. London: Sage.

### **Acknowledgements**

Thanks are due to M. Bruce, D. Garden, A. Harding, S. Jack, T. O'Donovan, D. O'Sullivan, C. McCaig, A.J. McGibbon, A. Munro, K. Munro, C. Power, V Scott, D. Shaban, S. Wall and A. Wilson for assistance with data collection, L. Adams, H. Singer and A. Bowbyes for data input and all the GP respondents for completing questionnaires.

## **Do Community Pharmacists Have Appropriate Health Promotion Skills for Self-Management of Low Back Pain?**

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### **Introduction**

Back pain is the most commonly reported physical symptom after headache and tiredness. It accounts for a significant economic burden through lost working days and great personal distress. Community pharmacists now have responsibility under their new contract, in supporting self-care and managing patients with long term conditions.<sup>1</sup>

### **Objectives**

To determine whether community pharmacists have adequate knowledge, skills and attitudes to correctly advise the public on the management of back pain and to identify any training needs to fulfil their health promotion role.

### **Method**

A questionnaire was designed for anonymous self-completion by pharmacists in England, attending continuing education sessions, during autumn 2005. Attitudes were measured against existing surveys in Australia<sup>2</sup> and Scotland<sup>3</sup>. Two case studies were included to determine reported practice. Analysis was completed on SPSS.

### **Results**

335 responses from community pharmacists were analysed. Middle aged pharmacists, women, pharmacy managers and locums were over-represented compared to registration and workforce data. 60% had experienced short-term back pain and these respondents demonstrated more confidence in advice giving. Awareness of written information such as the 'Back Book' that could help to support practice was low. Most (93%) respondents said they and their staff would benefit from more education about back pain.

### **Conclusions**

Structured training would be welcomed by community pharmacists and their staff, in order to increase their ability and confidence to deliver consistent health promotion advice to customers on self-care of back pain.

### **References**

- <sup>1</sup> Dept of Health: Choosing health through pharmacy: a programme for pharmaceutical public health 2005-2015. London 2005.
- <sup>2</sup> Buchbinder, R., Jolley, and D.: Population based intervention to change back pain beliefs: three year follow up population survey. *BMJ* 2004, **328**:321. [doi:10.1136/bmj.328.7435.321]
- <sup>3</sup> Working Backs Scotland: Frequently asked questions [http://www.workingbacksscotland.com/faqs.htm#q4] Accessed on 28/4/2006.

## **“If I Needed it I Would Take It”: A Qualitative Study of Patients’ Views of Painkillers**

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### **Background**

It has been suggested that patients with chronic pain do not manage painkillers optimally; and that pharmacists have a role to play in educating patients on their best use.

### **Method**

Semi-structured interviews with twenty people with knee osteoarthritis to investigate their views on managing pain and use of painkillers were carried out. Interview transcripts were thematically analysed.

### **Findings**

Respondents had a range of ways of managing pain. Most were unhappy about taking painkillers long term and many self-regulated in response to symptoms. They weighed up the impact of the pain against the adverse and beneficial effects of the drug. There was no evidence that respondents deliberately denied themselves effective pain relief through lack of knowledge about how to use painkillers.

### **Discussion**

Older people have been described as resourceful in managing pain. Ignoring pain and doing nothing is a self care decision. Medications have frequently been reported to be the least favoured approach. This study supports those findings. While most preferred not to take medicines, respondents would take them if they felt they were needed.

### **Conclusion**

Lay views on what constitutes optimal pain relief may differ from that of health professionals. Rather than educating patients about the use of analgesics, pharmacists need to understand the rationale for patient goals and preferences in relation to managing pain and advise them within that context.

## Using E-Learning to Promote Interprofessional Working Between Pharmacy and Medical Students

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### **Background**

In the early stages of the undergraduate health and social care courses in Aberdeen all students are involved in face-to-workshops. However, such large scale sessions become difficult to accommodate later in the courses. To overcome these difficulties a novel, more flexible approach to delivery of interprofessional teaching is needed.

### **Aims and objectives**

The project's aim was to develop and evaluate a web-based virtual learning environment (VLE) module.

The objectives were to identify a topic of study relevant to the professional groups involved, to develop the course including the use of web based video content and to evaluate the attitudes and experiences of the students involved.

### **Methodology**

A new web-based module was delivered to a pilot cohort of Year 3 pharmacy and medical students using the Robert Gordon University's Virtual Campus VLE. The module was evaluated using focus groups and a cross-sectional quantitative survey of all students.

### **Results**

The course was delivered to a cohort of 27 pharmacy and medical students. Key themes arising from the focus groups included an appreciation of the potential benefits of interprofessional education and the importance of face-to-face and non-verbal communication. A majority of questionnaire respondents agreed they would welcome the opportunity to share some teaching with other health care students (77.8%) and several (33.3%) also agreed this course was likely to increase their future interprofessional communication.

### **Conclusions**

The online interprofessional course has been successfully developed and is now embedded in the 3<sup>rd</sup> phase of the medical and pharmacy courses although further evaluation is needed.

## Experiential Learning for Prescribing Trainees: Views and Experiences of Pharmacists and Mentors

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### Introduction

Pharmacists can undertake supplementary prescribing (SP) after completing university-based training and a 'period of learning in practice' (PLP).<sup>1</sup> During the PLP, a designated medical practitioner (DMP) supervises the pharmacist to develop competence in prescribing.<sup>2</sup> The aim of this study was to explore the views and experiences of pharmacists and DMPs about the PLP.

### Method

Two focus groups (n=5 and 7 respectively) of SP pharmacists were organised at central locations in Scotland. Experiences and views of DMPs (n=13) were explored using one-to-one telephone interviews. Focus groups and interviews were transcribed verbatim and analysed using the framework approach.<sup>3</sup>

### Results

Planning the PLP in consultation with the DMP was found to be crucial for an optimal experience. Pharmacists who did not have a close working relationship with the medical team had difficulties in identifying a DMP and organising their PLP. Participants stressed the importance of focusing on and achieving the core competencies for prescribers during the PLP. Input from training doctors, review of consultation videos, and formal independent assessment including clinical assessment at the end of PLP might improve the quality of PLP. A forum for discussing experiences during PLP and gathering information might be valuable.

### Conclusion

This research has identified some of the key features and markers of good practice for maximising the educational experiences of the PLP. These include pre-existing working relationships, effective planning and focusing on core competencies. Support for pharmacists in organising the PLP and a forum for discussing experiences during PLP may be valuable.

### References

- <sup>1</sup> Department of Health. Supplementary Prescribing by Nurses, Pharmacists, Chiropodists/Podiatrists, Physiotherapists and Radiographers within the NHS in England: A guide for implementation. London: HMSO, 2005.
- <sup>2</sup> Royal Pharmaceutical Society of Great Britain. Outline Curriculum for Training Programmes to prepare Pharmacist Supplementary Prescribers. London; 2002.
- <sup>3</sup> Pope C, Ziebland S, Mays N. Qualitative research in health care: Analysing qualitative data. *BMJ* 2000; 320:114-116.

### Acknowledgements

This study was funded by a mini-project grant from the Pharmacy Practice Research Trust. We thank Brian Addison, Laura Binnie and Antonella Tonna for their help with the study and Amber Bowbyes for transcribing the interviews.

## **Views of Pharmacist Prescribing Trainees and Their Designated Medical Practitioners on the Period in Practice**

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### **Introduction**

A Period of Learning in Practice (PLP) is an integral part of supplementary prescribing (SP) training. During the PLP, a designated medical practitioner (DMP) supervises and supports the trainee to develop competence in prescribing.<sup>1</sup> The aim of this study was to evaluate the views and experiences of SP pharmacists and DMPs relating to the PLP and identify their perceived support needs.

### **Method**

Pre-piloted questionnaires were mailed in September 2006 to all pharmacists who had started their SP training at The Robert Gordon University (n=242) and their DMPs (n=232). Non-respondents were sent up to two reminders. Responses were analysed using descriptive statistics; responses to open questions were analysed thematically.

### **Results**

Responses were received from 186/242 (76.9%) pharmacists and 144/232 (62.1%) DMPs. Just over half of the pharmacists agreed/strongly agreed that they knew what was expected of themselves and their DMPs but less than half agreed/strongly agreed that it was important to communicate with pharmacist colleagues in the prescribing course. DMP responses were similar in terms of awareness of responsibilities during the PLP. One hundred and twelve (60.2%) pharmacists had their consultation skills reviewed by their DMP. Opportunities for professional development and for team-working were regarded as major positive experiences. Organisational, attitudinal and time constraints were reported. There was considerable interest for an internet-based support network during the PLP.

### **Conclusion**

Information on roles and responsibilities of pharmacists and DMPs during the PLP should be enhanced. The internet could be a useful medium for communication during the PLP.

### **References**

- <sup>1</sup> Royal Pharmaceutical Society of Great Britain. Outline Curriculum for Training Programmes to prepare Pharmacist Supplementary Prescribers. London; 2002.

### **Acknowledgements**

This study was funded by a mini-project grant from the Pharmacy Practice Research Trust of the Royal Pharmaceutical Society of Great Britain. We thank Brian Addison, Laura Binnie for their help with the study and Amber Bowbyes for administrative support.

## **Barriers and Facilitators to the Delivery of Medicines Use Review (MUR) Services in Community Pharmacies in Wales**

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### **Introduction**

Medicines use review (MUR) is an advanced level service within the pharmacy contractual framework, implemented in April 2005. Anecdotal feedback suggests that there may be a number of concerns about the current system for delivery of MUR services. As part of a larger, structured evaluation of MUR services in Wales, this study aimed to gain consensus on recommended changes to the existing service.

### **Methodology**

Community Pharmacists, General Practitioners and Local Health Board representatives took part in a structured 1-day research workshop held in December 2006 in two locations in Wales. Nominal group technique (NGT) was used to gain consensus on key priorities for change.

### **Results**

Thirty four participants took part in the study. The following recommendations for change were suggested in both workshops (number of votes): i) Central guidance on whole MUR process (17), ii) public education (14), iii) improvement in IT systems to link PMR data with MUR forms sent electronically to GP (12), iv) link up IT systems to ensure sharing of information across NHS (11) and v) local plans to be developed for targeting services, allowing GP to refer into the scheme (11). Eight other suggestions for change were also identified but these were not common to both workshops and gained less than ten votes.

### **Discussion**

Participants were able to offer a number of solutions to the current problems facing the MUR service in Wales. Consensus was gained for five priorities for change which were identified in both workshops.

## **How is the Language of Medicines Use Review Leaflets Symbolising the Service?**

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### **Introduction**

The Medicines Use Review (MUR), a new community pharmacy ‘service’, was launched in England and Wales to improve patients’ knowledge and use of medicines through a private, patient-pharmacist appointment. After 18 months only 30% of pharmacies are providing MUR’s; at an average of 120 per annum (maximum 400 allowed)<sup>1</sup>. One reason linked to low delivery is patient recruitment<sup>2</sup>. Our aim was to examine how the MUR is symbolised and given meaning via printed patient information, and potential implications.

### **Method**

The language of ten MUR patient leaflets, including the NHS booklet<sup>3</sup>, and leaflets from multiples and wholesalers was evaluated by discourse analysis.

### **Results and Discussion**

Before experiencing MUR’s, patients conceivably ‘categorise’<sup>4</sup> relationships with pharmacists based on traditional interactions. Yet none of the leaflets explicitly describe the MUR as ‘new’ and presuppose patients would become involved in activities outside of their pre-existing relationship with pharmacists such as appointments, self-completion of charts, and pharmacy action plans. The MUR process is described inconsistently with interchangeable use of formal (‘review meeting’) and informal (‘friendly’) terminology, the latter presumably to portray an intended ‘negotiation model’<sup>5</sup> of interaction. Assumptions exist about attitudes (‘not understanding’; ‘problems’) that might lead patients to an appointment. However, research has identified a multitude of reasons why patients choose (or not) to consult practitioners<sup>6</sup> and marketing of MUR’s should also consider other barriers. For example, it may be prudent to remove time limits to avoid implying patients might not be listened to fully, during what is for them an *additional* practitioner consultation.

### **References**

- <sup>1</sup> Pharmaceutical Services Negotiating Committee. MUR Statistics. <http://www.psn.org.uk/index.php?type=page&pid=72&k=3> (accessed 27 November 2006).
- <sup>2</sup> Hall J, Smith I, Adams A. Why are pharmacists not doing MUR’s? Poster Presentation at the Health Services Research and Pharmacy Practice Conference; 2006 April 3-4; Bath, UK.
- <sup>3</sup> Department of Health. Medicines Use Review: Understand Your Medicines. <http://www.dh.gov.uk/assetRoot/04/12/68/44/04126844.pdf>. (Accessed 27 November 2006).
- <sup>4</sup> Giddens A, Turner JH (Eds.). Social theory today. Cambridge: Polity; 1987.
- <sup>5</sup> Bury M. Health and illness in a changing society. London: Routledge; 1997.
- <sup>6</sup> Helman CG. Culture, health and illness. Oxford: Butterworth-Heinemann; 2000.

## **Has the New Contractual Framework for Pharmacy Improved Integration?**

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### **Introduction**

In 2003, the Department of Health outlined a vision for pharmacy to be recognised as part of the NHS family and become more integrated into the primary health care team. The study aimed to examine the impact of the new contractual framework on community pharmacy's integration in primary care.

### **Method**

Ten Primary Care Trust (PCT) case study sites were selected for in-depth investigation, on the basis of varying levels of service provision and geographical distribution. Semi-structured interviews (n=44) were undertaken with key stakeholders, including PCT and Local Pharmaceutical Committee (LPC) representatives and pharmacy contractors, either face-to-face or by telephone. All interviews were transcribed verbatim and analysed thematically.

### **Results**

Medicines Use Reviews (MUR's) were highlighted as a potential vehicle to improve integration; however several interviewees felt MUR's had caused tension between GPs and pharmacists and worsened relationships. At some sites, little integration was seen as a result of the introduction of repeat dispensing, as lack of GP engagement was inhibiting the operation of this service. Several examples of integrated services were seen amongst the case study sites, however the majority were enhanced services commissioned prior to the start of the new contract. Barriers to integration were identified, including lack of PCT funding and non-corresponding professional cultures.

### **Discussion**

Integration is an integral part of the new contractual framework, and is necessary at even the essential services level. PCTs may need to adopt strategies to encourage integration, such as incentives, and work with LPCs and contractors to ensure a culture of integration is promoted.

## **Developing Consensus Around the Pharmaceutical Public Health Competencies for Community Pharmacists in Scotland**

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### **Introduction**

The contribution of pharmacists and pharmacy to the delivery of public health in Scotland is recognised in national policy<sup>1, 2</sup>. The new community pharmacy contract with its emphasis on public health will provide a new framework in which the contribution of community pharmacy to improving health in Scotland can be delivered. This research aimed to define the core public health competencies applicable to community pharmacy practise.

### **Method**

A web based Delphi methodology<sup>3</sup> was used to achieve consensus on which competencies, from the 'Skills for Health Public Health Practice competency framework'<sup>4</sup>, should be met or aspired to by practising community pharmacists using a multidisciplinary group of expert stakeholders. Panel members rated their extent of agreement/disagreement that each community pharmacist should achieve or be striving to achieve that particular competency. Consensus was defined as  $\geq 90\%$  rating a competency as strongly agree/ agree. Two rounds have taken place to date.

### **Results**

Twelve organisations and 30 individuals participated. Responses were received from 25 (83%) individuals in round 1 and 22 (73%) in round 2. Consensus was achieved for 25/68 (37%) competencies in round 1 and a further 8/64 (13%) in round 2. Initial analysis indicates that competencies achieving consensus predominantly focus on health improvement activities at individual and local community levels and ethical management of self.

### **Conclusion**

This research has identified that many of the competencies in the 'Skills for Health' document can be applied to community pharmacy. Further work is now required to gain input from practising community pharmacists.

### **References**

- <sup>1</sup> Scottish Executive. The Right Medicine: A Strategy for Pharmaceutical Care in Scotland. Edinburgh: The Scottish Executive, 2002.
- <sup>2</sup> Public Health Institute of Scotland, Pharmacy for Health: The way forward for pharmaceutical public health in Scotland. Glasgow: PHIS 2003.
- <sup>3</sup> Jones J, Hunter D. Qualitative research: consensus methods for medical and health services research. British Medical Journal 1995; 311: 376-380.
- <sup>4</sup> The Sector Skills Council for Health. Skills for Health: Public Health Practice Competences. 2005. [http://www.skillsforhealth.org.uk/view\\_framework.php?id=53](http://www.skillsforhealth.org.uk/view_framework.php?id=53) [accessed 5 December 2006]

### **Acknowledgements**

This study was funded by NHS Education for Scotland. We thank Laura Binnie for technical expertise and Amber Bowbyes for administrative assistance. We also thank all the participating individuals and organisations.

## **Views of Undergraduate Pharmacy Students on the Teaching of Public Health**

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### **Introduction**

Pharmacists' contribution to delivering public health requires the subject to be taught to undergraduates.<sup>1,2,3</sup> At Liverpool John Moores University, public health is integrated into several modules, but not identified as a discrete discipline. This study aims to determine students' perceptions of public health and its teaching.

### **Method**

A questionnaire was developed from focus groups, to determine students' views on public health, their future roles and teaching of public health.<sup>4</sup> Questionnaires were distributed to first and final year students near the end of the 2005/06 academic year. Data were analysed using SPSSv14.

### **Results**

Responses were received from 67 first year (67/120, 48%) and 76 final year (76/120, 75%) students. No statistically significant differences were found between cohorts. Most expected to provide general advice or services aimed at improving or protecting health or screening. The proportion of first level students agreeing that pharmacists in primary care have more opportunity to support public health than secondary care pharmacists was lower than among final level students. More first level than final level students also identified with a biomedical rather than social model of public health.

Overall 77% of students agreed that public health was clearly identified as an element of the course, but 78% agreed that it required more time. Only 25 (25/67, 37%) first level and 42 (42/76, 55%) final level students felt that public health should be taught to students from many disciplines together.

### **Discussion**

Although focus groups had indicated a desire for teaching from other disciplines, this study indicated less support for inter-disciplinary learning.

### **References**

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## **Body Image Perception and the Use of Weight Control Methods among University Students**

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### **Background**

Body image dissatisfaction and weight concerns are becoming an increasingly important issue among US college students<sup>1</sup>. The aim of this study is to examine UK young adults' perceptions toward their body image and its influence on weight change behaviours.

### **Method**

Self-administered questionnaires were distributed to 1,855 undergraduate students. The questionnaire included nine silhouette drawings of men and women, the 8-item version of Body Shape Questionnaire and questions about weight change behaviours.

### **Results**

The response rate was 21% (393, 117 men and 276 women). More than two-thirds of women wanted to be thinner, whereas around one-third of men wanted to be heavier. 38% of women compared with 10% of men reported a high level of body image concern. About 70% of women and 40% of men had used at least one weight change strategy – men were more likely to use exercise, whereas women preferred to control their food intake. Respondents with high body image concern were more likely to perceive themselves overweight and to engage in weight change behaviour compared with those with low body image concern.

### **Discussion**

Our findings confirm US studies showing that high body image concern, particularly in women, is correlated with self-perception of being overweight and attempting to change weight<sup>2,3</sup>. The low response rate and small number of men means that our results may not reflect all student populations. Despite the limitations, this study has improved our understanding of the influence of body image concern on weight change behaviour among UK university students.

### **References**

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## **Economic Evaluation Advancement in Pharmacy: Discrete Choice Experiments (DCEs)**

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### **Introduction**

Discrete Choice Experiments (DCEs)<sup>1</sup> are an attribute-based technique to elicit preferences. When a price proxy is included, willingness to pay (WTP) can be estimated for both marginal changes in service characteristics and changes in the overall service. The last 15 years has seen an increased use of DCEs in health care,<sup>1</sup> with more recent applications in pharmacy<sup>2</sup>. However, there has been limited application within the cost benefit analysis (CBA) framework.<sup>3</sup> This study addresses the application of DCEs within a CBA framework, applied to introducing a community pharmacy-led medicines management service<sup>4,5</sup>.

### **Methods**

The DCE<sup>6</sup> offered three options: the current scenario; a novel community pharmacist and general practitioner review of medicines (CPGP); and a GP only medicines review (GP). WTP in moving from the current situation to 'CPGP' or 'GP' were estimated. Results were compared across 3 groups ('intervention still receiving the treatment', 'intervention all' and 'control').

### **Results**

The CPGP model of care was preferred for the 'intervention still receiving the treatment', whereas the GP model was preferred for the other two groups. Welfare estimates differed across groups. For example, in moving from the 'current' to 'CPGP', respondents in the 'intervention still receiving the treatment' were willing to pay £50 whereas those in the other groups would have been worse off.

### **Conclusion**

Extra costs of delivering the pharmacy led medicines management service were partially offset by increased patients' value. The DCE methodology is useful within a CBA for use in pharmacy policy decision making.

### **References**

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## **The Pragmatics of a Multi-Stage Qualitative Research Project**

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A multi-staged qualitative research project was conducted to explore the implementation of supplementary prescribing (SP) by pharmacists<sup>1</sup>. Methods included semi-structured interviews, diaries with trainee prescribers and non-participant observation of trainee prescriber-patient consultations. This paper aims to present some methodological issues that arose during the study.

Ethics approval was sought from a Multi-centre Research Ethics Committee. Due to the committee's misunderstanding of aspects of the methodology a resubmission was requested and supplied. However, approval was still not granted and two local ethics committees were approached. Both local committees granted approval, but with different requirements. One local committee permitted individual information packs and consent forms for each study stage, which may have reduced participation. The other committee requested one information pack for all stages which reduced paperwork and maintained consistency. In total, a year was required to obtain full approval.

Access to participants was facilitated via gatekeepers with varying success; for example, participants were told they 'should' contribute, influencing recruitment. Interviews were held at the participants' place of work to minimise inconvenience but the environment and potential for disruption is less within the researcher's control.

Participants were aware of the interview recorder which affects their views expressed 'on record'. Some participants provided additional information or opinions after recording was terminated, selecting views for either on or off record. These additional pieces of information are important to consider<sup>2</sup>.

Pharmacy practice research studies such as these present a number of challenges to overcome; this paper has highlighted a few of these issues.

### **References**

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## **Pay Not a Priority: an Application of Q Methodology to a Female Workforce Question**

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### **Introduction**

In the last few decades, the proportion of the pharmacy workforce made up by women has increased. Female pharmacists commonly work part time after the age of 30. The Q methodology study described aimed to explore and quantify factors influencing work patterns of female community pharmacists over the age of 30.

### **Method**

Q methodology combines the strengths of both qualitative and quantitative research; specifically it is a technique for accessing and quantifying subjectivity. The research team generated 57 representative 'statements' from 30 interviews with female community pharmacists. Subsequently, 40 female community pharmacists sorted the statements, between January and May 2006. The Royal Pharmaceutical Society of Great Britain permitted the researcher to use registration and census data to identify the sample. The respondents sorted the statements using a template, which represented a quasi normal distribution. The data were analysed by Q factor analysis. Multi-centre research ethics committee approval was obtained for this study.

### **Results**

This study identified nine distinct accounts of factors influencing female community pharmacists working patterns. Female pharmacists are not highly motivated by rates of pay and prefer to work as employees. Furthermore, some respondents preferred practitioner roles, part time working or second pharmacist roles. Long working hours and weekend working were unpopular with some respondents. Child rearing influenced work patterns; most respondents strongly agreed with the statement, "I think as you have children, you have to stop working long hours – it just isn't fair on your children".

### **Conclusion**

Family friendly working conditions were more important than levels of pay to female community pharmacists.

## Availability of Over the Counter Weight Loss Products from Pharmacies

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### Introduction

Obesity is a major UK public health issue and reducing childhood obesity is a specific target for pharmacists.<sup>1</sup> Community pharmacies are one outlet for products aimed at people trying to lose weight, but little is known about what products pharmacies stock or sell. This study aims to describe the availability of OTC solid dose weight loss products in community pharmacies in Liverpool.

### Method

A convenience sample of 75 Liverpool pharmacies were either visited or telephoned during June 2006 to gather data on products stocked and price. Products were classified according to their claimed method of action, gathered from manufacturer's websites, promotional material and interviews with marketing managers.

### Results

65 (87%) pharmacies stocked OTC solid dose weight loss products. 'Appetite suppressants' were stocked most frequently (63% of products), followed by 'fat blockers' (22%), 'metabolism boosters' (12%) and 'starch blockers' (3%). Of pharmacies stocking these products, 42 (65%) kept 'appetite suppressants', although Adios™, a 'metabolism booster' was most commonly stocked. Pharmacies nearer the city centre were more likely to stock products and to have a wider variety of products. Overall a course of 'treatment' with 'fat burners' was most expensive, (mean price £23.45) and 'starch removers' cheapest (mean price £4.88), but prices for the same product varied considerably between pharmacies

### Conclusion/further research

OTC oral solid dose weight loss products are widely available from pharmacies in Liverpool. Further research is required to extend this work to all pharmacies in the Liverpool area and to determine practices regarding the sale of these products.

### References

<sup>1</sup> Department of Health. *Choosing Health through Pharmacy*. London 2005

## Self-Care in Pregnancy and Breastfeeding: a Survey of the Views of Community Pharmacists in Chiangmai, Thailand

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### Introduction

The Thai population can purchase medicines from pharmacies without a prescription. Pregnant and breastfeeding women are concerned about safety strategies and undertake many activities to manage minor ailments and maintain good health. This leads them to seek advice at community pharmacies. There has been little previous research about pharmacists, self-medication and self-care especially in pregnant and breastfeeding women in Thailand. Our objective was to evaluate the current situation.

### Method

A postal questionnaire was used to collect data from 198 full-time pharmacists in the Chiangmai province. The first mailing was sent in April 2006 and a reminder in June 2006.

### Results

The response rate was 55% (n=110). For pregnant women, pharmacists most frequently diagnosed symptoms and dispensed medicines, recommended vitamins and supplements, and referred to a doctor. Whilst for breastfeeding women, diagnosis of symptoms and dispensing medicines, and advice about contraception were most common. Pharmacists reported that pregnant and breastfeeding women most frequently consulted them about the symptoms of the common cold and respiratory tract infections. Most pharmacists said they dispense medicines, rather than provide advice or refer to doctors, for seven main symptoms of pregnancy and five main symptoms of breastfeeding. The majority of pharmacists strongly agreed that self-care is important for both pregnant and breastfeeding women and they believed that pharmacists provide good support for these women. Counselling and advice from community pharmacists is still highly regarded by women during pregnancy and breastfeeding, so pharmacists must ensure they have the appropriate knowledge to provide medicines and give advice about self-care.

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## Is the Incidence of Clostridium Difficile Linked to Prescribed Ulcer Healing Medication

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### Background

The incidence of *Clostridium difficile* is associated with increased morbidity, mortality and length of hospital stay<sup>1</sup> following the use of broad-spectrum antibiotics<sup>2</sup> and is subject to mandatory surveillance by the Health Protection Agency. Previous studies have suggested the use of proton pump inhibitors as a risk factor in *C. difficile* infection<sup>3</sup>. This work analyses electronic patient records (EPRs) from a single hospital to establish whether this relationship could be duplicated.

### Methods

All prescription EPRs from April and September 2006 were downloaded into an Access database and records of medicines prescribed from BNF chapter 1.3 were identified. Microbiology EPRs of those patients with a +ve *C. difficile* stool sample were also recorded. Records were cross-matched to identify those with a concurrent *C. difficile* +ve stool sample and ulcer healing drug prescription.

### Results

The total patient population was 19,812 (Apr - Sep 2006) of which 3,543 (17.9%) were prescribed an ulcer healing drug. A +ve *C. difficile* stool sample was identified in 172 (0.87% of total population) patients of which 80 (46.51% of *C. difficile* pool) were concurrently prescribed an ulcer healing drug.

### Discussion

A disproportionately greater incidence of *C. difficile* was found in patients prescribed an ulcer healing drug confirming previous suggestions<sup>3</sup>. Clinical Pharmacists should be aware that ulcer healing drugs may increase the incidence of *C. difficile*. This work is currently being extended to determine the impact of dosage, duration of treatment, age and other co-morbidities.

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## **Diabetes Related Communications in Community Pharmacy: Reflections on the Findings from a Feasibility Study**

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### **Aims**

1. To assess the feasibility of keeping a log of diabetes-related communication in a community pharmacy.
2. To explore the potential of the logs to reflect diabetes-related communications within pharmacies.

### **Design**

A reflective log-keeping exercise in community pharmacies (duration, four weeks) of any diabetes-related communication taking place between pharmacy staff and their service users, and any signposting made to and from other relevant health professionals.

### **Subjects and setting**

Nine community pharmacy branches of the Independent Pharmacy Care Centres PLC based in Hull, East Yorkshire and North & North East Lincolnshire.

### **Outcome measures**

A description of the form and nature of diabetes-related communication.  
Feedback on the practicalities of keeping the log.

### **Results**

22 communications were logged; 21 involved direct face-to-face contact and one log involved a telephone conversation. Two thirds of the communications involved conversations with patients with diabetes, a third were with a partner/family member. The conversations captured fell into 5 categories: sugar free medicines, blood glucose testing meters, prescription medicines, diabetes specific education/information, and an unclassified category. The logs demonstrated that communications can involve all members of the staff team, working independently or jointly across roles in the pharmacy.

### **Conclusion**

Community pharmacies were actively involved in providing diabetes health related information/education and support. Communications involved directly assisting people with diabetes and providing information to people supporting others with a diagnosis of diabetes. We propose that the logs provide a valuable means of acquiring information about the form and nature of diabetes related communication and signposting within community pharmacy.

## How Do Pharmacists Learn and Develop in Practice?

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### Introduction

There is now an increased understanding of ways in which professionals can engage in powerful learning and development through their practice.<sup>1, 2</sup> However, despite government and professional endorsement of the concept of Continuing Professional Development (CPD) as a method of capturing these learning experiences<sup>3, 4</sup>, little research has been conducted into the ways in which pharmacists learn in practice.

### Method

As a pilot for a larger study, semi-structured interviews were undertaken with 6 pharmacists, to assess their approach to ongoing learning in practice. The interview schedule was designed to include discussion of the development of self reported key skills, and preparation for new roles.

### Results

All informants were able to identify ways in which they learnt through experience. Reflection was identified by some as a key skill which they used to learn from experience. Others provided examples of reflection occurring in their learning, without recognising it as reflective practice.

In identifying ways in which they prepared for new areas of practice, the participants all mentioned accessing taught courses. They seem to hold propositional knowledge gained from taught learning methods in high regard. Less value was assigned to practical and process knowledge which can be learnt in the practice setting.

### Conclusions

Pharmacists utilise a number of successful methods to learn through practice. These are at present both poorly understood and under-represented in schemes of Continuing Professional Development. More research in this area is urgently required.

### References

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## Insights on Prescribing Differences between Nurses and GPs

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### Introduction

Non-medical prescribing provides patients with easier access to medicines but monitoring cost-effectiveness of care across professional boundaries is a challenge. In this study qualitative data from nurses was used to interpret nurse and GP prescribing data.

### Method

GP and nurse annual laxative prescribing data were compared with semi-structured interviews with a purposive sample of 22 community nurse prescribers. Transcriptions of the interviews were analysed using the framework method.

### Results

**Prescribing data** - Both professional groups prescribed osmotic laxatives most frequently.

Top 3 Osmotic laxatives prescribed			
GPs	No. of items (%)	Nurses	No. of items (%)
Lactulose solution	4,265,580 (88.7)	Sodium citrate enema	1,596 (45.8)
Sodium citrate enema	190,552 (4.0)	Phosphate enemas	1,004 (28.8)
Phosphate enema	122,714 (2.6)	Lactulose	849 (24.4)

**Qualitative data** - Nurses considered patients were unlikely to report bowel complaints to them as patients often did not know nurses could prescribe for these conditions or because patients did not have easy access to nursing services. Nurses thought they saw more severely constipated patients as GPs referred them to nurses to receive enemas.

### Discussion

Differences in case mix between nurses and GPs help to explain differences in prescribing patterns although the relatively low nurse prescribing volumes make meaningful comparisons more difficult. Administrative barriers preventing repeat prescribing by nurses<sup>1</sup> make it difficult for community nurses to prescribe treatments such as lactulose for chronic constipation. Prescribing data is more suited to reviewing the prescribing activity of different members of the same professional group rather than across professional boundaries.

### References

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## Developing Predictors for Commitment to a Career in Pharmacy

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### **Background**

Since March 2005 we have been collecting annual survey data for a longitudinal cohort study following the early careers of 2006 pharmacy graduates. We obtained a response rate of 67% for the first survey for the study, and 68% for the second (72% female).

### **Results**

Preliminary analysis of data relating to career choice indicated that there appeared to be a sub-group of students who have drifted into pharmacy. This paper presents findings from a cluster analysis subsequently undertaken to explore whether it was possible to identify those who are more or less committed to their pharmacy career based on a number of different measures of career commitment from the first survey. These measures included motivations to study pharmacy, whether pharmacy was a first choice of undergraduate course, and future career intentions.

Eleven clusters were identified within the data. Clusters containing (the most) highly committed individuals were demographically different to that made-up of drifters (approximately 10% of the sample). They contained a greater proportion of females (77% vs. 63%), were currently older on average, and made the decision to study pharmacy at an earlier age (around 16 years old (pre A-level) vs. 18).

### **Discussion**

Using the 11 clusters over the course of the study we will be able to determine whether they are useful in predicting the types of pharmacy (or non-pharmacy) careers cohort study members follow.

## **Are Women and Black and Minority Ethnic (BME) Groups Integrated in the Community Pharmacy Labour Market?**

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### **Introduction**

Previous research has identified that the pharmacy labour market is segmented along gender and ethnic group lines, with women over-represented in hospital and BME groups over-represented in the community sector. Less certain, however, is whether segmentation persists within sector, whether hours worked or year of registration can help explain the segmentation seen, or how BME status and gender interact. With the benefit of a large representative data set this paper examines further the nature of female and BME group participation in community pharmacy.

### **Methods**

Secondary analysis of large data set containing workforce characteristics and work activity of GB registered pharmacists.

### **Results**

Of all community pharmacists with one job, 51% are female, and most (36%) are managers. Women are marginally over represented (56%) among managers and very over represented (74%) among practitioner level employees. Conversely, the majority (78.5%) of owners are male, as are the majority of locums (52%). These general patterns hold irrespective of hours worked and regardless of when the pharmacists registered, suggesting that working part-time and years on the register do not account for women's over-representation in lower status employee roles. These gender differences in job type also persist regardless of the BME group to which the pharmacist belongs. However, gender and BME status interact: for example, the majority (46%) of male Indian pharmacists are owners, the majority (30%) of female Indian pharmacists are employees, and the majority of Pakistani males and females are locums (48% and 34% respectively).

### **Conclusion**

The analysis indicates that despite occupational integration, job integration along gender or ethnic group lines has not occurred. Sociological theories of employment can help explain these patterns.

## **The Value of Pharmacy Dispensing Databases for Examining Equity Issues in Prescription Medicines Use: a New Zealand Example**

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### **Introduction**

Health inequalities between different age, sex, socio-economic and ethnic groups have been well-documented in New Zealand. While prescription medicines are an important mediator of health status, little is known about how inequalities in their use may contribute to inequalities in health. The lack of an accessible single source of medicines use information available in New Zealand which does not suffer from significant under-capture has hindered efforts in this area. This study examines equity by providing the first comprehensive examination of total prescription medicines usage in a defined population, using pharmacy dispensing databases.

### **Methods:**

A moderate-sized New Zealand town (population 32,000) with good variation in ethnicity and socio-economic status was selected. All dispensing data for town residents over a year were obtained from the town's eight pharmacies. Outpatient dispensing were also obtained from the hospital pharmacy. The town was at least an hour's drive away from another town with a pharmacy, making it unlikely for residents to have obtained dispensing from other pharmacies.

Medicines use will be examined by age, gender, ethnicity and socio-economic status. Health statistics will be used to determine whether medicines usage reflects the health needs.

### **Results**

All 655,000 dispensing records have been obtained and are currently being analysed. It is intended to present the results of the above analyses.

### **Conclusions**

The implications of the results for equity in health service provision, and the value of pharmacy dispensing databases in assessing this, will be discussed.

## **Seeking Health Care Advice for Minor Ailments, the Users and Health Professional's Perspective: a Systematic Review**

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### **Background**

Policy makers identify community pharmacists (CP) as an underused resource; which could lead to dissatisfaction at a professional level, a waste of expertise, and an inefficient use of resources.

For the management of minor ailments, the policy aim is to make consultation with community pharmacists the 'first port of call' in primary health care. However, users continue to visit their family doctor when seeking health advice on minor ailments. In England and Wales 40% of GP consultations are for minor conditions.

### **Methods**

The literature included searching 11 electronic databases, and hand searching three journals, relevant web sites and conference proceedings. Documents were deemed relevant if they covered any one of the following; a) health professional or users' attitude to and perception of the CP role; b) skill mix in primary, c) health seeking behaviour and consultations for minor ailments, and d) studies looking at comparison of health care delivered by CP vs other health professionals.

### **Results**

234 papers were reviewed. There is little research into the understanding of the factors that prompt users to prefer GPs over community pharmacists. Most of the existing research focuses on aspects such as waiting time or costs, overlooking aspects such as the relationship with the health professional (i.e. trust, or continuity of care) which might be important to users.

### **Conclusions**

A better understanding of the factors that lead users to prefer GP over CP is paramount to the formulation of more effective policy initiatives.

## Factors Influencing the Effectiveness of an Inpatient Opioid Detoxification Service

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### Introduction

Community treatment of opioid dependence is sometimes unsuccessful; however, inpatient treatment places are limited.<sup>1</sup> Allocation of places to patients with the greatest likelihood of success is therefore essential.

This study aimed to identify factors influencing treatment success in an inpatient detoxification unit.

### Method

Review of 100 MerseyCare inpatient medical records (Aug 05 – Feb 06) for social and treatment factors and outcomes. Data were analysed using SPSSv14. NHS ethics approval was not required; MerseyCare Research Governance Committee approved the study.

### Results

Patients' mean age was 35.7 years (21-55 years) and 69/100 were male. Thirty-four successfully completed full detoxification, of whom 32 (94%) tested negative for opioids at discharge. Reasons for failure were: use of illicit substances (26); not feeling ready (11); stabilised but not detoxified (8); social problems (4); intense withdrawal symptoms (3); threatening behaviour (1); suicidal thoughts (1). No reasons were recorded in 12 cases.

No social factors tested had a significant impact on treatment success. Treatment regimen significantly influenced outcome; those containing buprenorphine or naltrexone showed greatest success (logistic regression,  $p < 0.001$ ). Time of stay was positively linked to detoxification (t-test,  $p = 0.002$ ). Patients with a personal life plan following detoxification ( $\chi^2$ ,  $p = 0.004$ ) and those receiving post-discharge treatment ( $\chi^2$ ,  $p = 0.002$ ) were significantly more likely to succeed.

### Discussion

The data suggest that treatment regimen is an important factor influencing the success of inpatient detoxification. Personal life plans and post-discharge treatment also contribute. No social factors prior to admission were found to influence treatment success, limiting opportunities to target places.

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**Are Patients Satisfied with a Minor Ailments Scheme?**

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**Introduction**

As part of the Government priority to improve access to medicines, the 'Pharmacy First Minor Ailments' scheme was introduced in Nottingham in December 2003. The service covers 11 minor ailments and medicines are free to those exempt from NHS prescription charges. This part of our evaluation study measured patient satisfaction with the scheme.

**Method**

Between May and December 2005, questionnaires were distributed to patients registered with the scheme. Satisfaction was measured for 24 items across eight dimensions: general satisfaction, access/convenience, quality of drug, physical environment, pharmacist's competence, communication, interpersonal aspects and time spent with pharmacist. Individual dimension and overall satisfaction scores for each respondent were calculated and compared across demographic variables.

**Results**

143 questionnaires were completed (response rate 14%). The mean age of respondents was 33 years (range 17-62). Approximately half had annual household incomes below £10,000. The mean satisfaction score was 99.7 (SD 11.4, range 67-120, possible score 24-120). Highest satisfaction scores were reported for the access/convenience dimension and lowest satisfaction with the physical environment. Comparisons of overall satisfaction scores did not demonstrate significant differences by gender, age, educational level, employment or frequency of using the service. However, those with a lower income had significantly higher overall satisfaction scores (ANOVA,  $F=3.272$ ,  $p=0.042$ ).

**Discussion**

There was a high level of satisfaction with the scheme, particularly for those with lower incomes. Despite the low response rate, this survey has highlighted some areas for improvement and the importance of a service which is convenient for patients.

## **Monitoring Prescribing Associated with the Quality and Outcomes Frame Work in Primary Care**

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### **Introduction**

A major role of the Prescribing Support section of the RDTC is to provide primary care organisations (PCOs) with prescribing reports. With the advent of the new General Medical Services contract, several clinical targets for chronic disease were introduced as part of the quality and outcomes framework (QoF). There was concern that prescribing expenditure would increase markedly as practices strived to achieve these targets.

### **Aim**

To provide eight strategic health authorities (SHAs) in the North of England (NoE) with reports:

1. Showing changes in prescribing costs for areas associated with the QoF
2. Linking prescribing costs with targets achieved

### **Methods**

Prescribing and QoF data were obtained from ePACT.net (Prescription Pricing Division) and the quality, prevalence and indicators database, respectively. Reports including comparative bar charts scatter and funnel plots were produced.

### **Results**

Key themes that emerged from these reports were:

- Disparities in cost/patient but similar QoF targets achieved.
- High spending on prescribing did not equate to high achievement of targets.
- Differences in recorded disease prevalence.

### **Discussion and conclusions**

Linking prescribing and QoF data enables NHS organisations to compare their clinical performance and prescribing expenditure in therapeutic areas. Such linked data can be provided down to practice level. Presenting data in this manner highlights differences among organisations, suggesting areas for audit, review and where cost-effectiveness could be improved, thereby making substantial savings and freeing up scarce NHS resources.

## **The Development of Trigger Questions to Support the Case Finding of People with Unmet Medicines Management Needs**

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### **Introduction**

The National Service Framework for Older People highlighted the need to undertake regular medication reviews and introduced the Single Assessment Process (SAP). A policy analysis was conducted using the Systems Approach to support older people. This indicated and informed the development of a case finding tool that could be used by health and social care professionals to identify vulnerable people with unmet medicines management needs.

### **Method**

Risk areas associated with older people and medicines management were identified by a critical literature review and prioritised by an expert panel. The trigger questions were developed. Community pharmacists in three Primary Care Trusts road-tested and recorded interventions associated with each trigger question. Data analysis identified what medicines management interventions each question prompted. The trigger questions were then mapped to domains of health and social care.

### **Results**

Four medicines management domains were identified and the following trigger questions developed:

**Supply:** do you need help getting a regular supply of your medicines?

**Compliance:** do you take your medicines the way that the doctor (or other prescribers) think you do?

**Functionality:** can you swallow or use all of your medicines, and get the medicines out of their containers?

**Clinical:** do you think that some of your medicines could work better?

### **Conclusion**

Trigger questions can be used as a case finding tool by health and social care professionals to identify vulnerable people with unmet medicines management issues. Following the identification of patients, referral to accredited community pharmacist for Medicines Use Reviews would be a logical progression.

## **Hypertensive Patients' Satisfaction with Pharmaceutical Care in Primary Settings**

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### **Objective**

This novel study was to investigate the effects of pharmacist monitoring on hypertensive patients' satisfaction in North East Thailand.

### **Methods**

A randomized control group, treatment group, pre test, post test design was used with hypertensive patients willing to enrol in the study. The research pharmacist provided pharmaceutical care consisting of drug counselling, patient education and medication review to the treatment group, in addition to their usual care, while the control group continued to receive the usual care provided for hypertensive patients. The 12-month study was undertaken in Mahasarakham University community pharmacy in the municipal area and in two nearby rural primary care units.

### **Results**

Two hundred and thirty five patients were enrolled in the study (118 in the treatment and 117 in the control group). Cronbach's alpha for the 16-item pro forma was 0.79. Patient overall satisfaction in the treatment group was greater than for the control group,  $p < 0.05$ . When compared within each group, patients in both groups had better satisfaction with their care when compared with the pre test. Patients in both groups had the same satisfaction ( $p > 0.05$ ), in preferring to see any pharmacist on every visit, appreciating to know more after talking to the pharmacist, intending to follow the pharmacist's advice and receiving more benefits although spending an extra expense.

### **Conclusion:**

The results indicate that pharmacist monitoring of hypertensive patients in the primary care setting in North East Thailand increases patient satisfaction.

## Choosing a Pre-Registration Training Post

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### **Background**

As part of our ongoing longitudinal cohort study following the early careers of 2006 pharmacy graduates we surveyed the cohort in March 2006, focusing on preregistration choices.

### **Results**

Overall response rate was 68%. We found that 68% secured their first choice of post, with proportionally less males than females and significantly fewer minority ethnic than white students securing their first choice (58% and 77% respectively). Males and minority ethnic students were over-represented amongst those securing a post in community pharmacy, females in hospital pharmacy. Whether respondents had succeeded in getting their first choice of post did not depend on the sector they applied to.

Future career and promotion prospects were major motivators in choosing a training post, influencing 86% of respondents. Passing the Registration exam – or *getting into* the profession – strongly determined the largest proportion of the cohort's preregistration decision-making (66%). *Getting on* in the profession, via opportunities to develop team-working skills, or gain management experience – strongly influenced less than half of respondents. The cohort was also influenced by perceived needs for particular skills and attributes that would help them to get a job in a particular sector after the exam.

### **Discussion**

Aside from differences in preferences for training in particular sectors, and differences between subgroups' success in securing a first choice post, we found that overall the cohort's pre-registration choices were focused on the Registration exam as a rite of passage allowing entry to the profession.

## The Medman Study: an Example of Change within the NHS

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### Introduction

Change is an essential part of life and a constant feature in any organisation including those in the healthcare sector<sup>1,2,3</sup>. One change is the extension of the community pharmacist role to provide a more clinical service, including medicines management. The MEDMAN<sup>4, 5</sup> trial explored the introduction of community pharmacist-led medicines management for patients with coronary heart disease (CHD). This paper analyzes the process of change adopted during the introduction and provision of the service.

### Methods

Data collection was done by randomised controlled trial (RCT) with patients randomised (2:1) intervention to control, 12 month follow-up and semi-structured interviews. Primary outcomes were appropriateness of therapy (derived from the National Service Framework (NSF<sup>5</sup>)) and health status (SF-36<sup>6</sup>).

### Results

The RCT involved 1,493 patients (980 intervention, 513 control), 62 pharmacists and 164 GPs. Sixteen GPs and six community pharmacists were interviewed. There were no statistically significant differences for any primary outcome measures. Seven main analytic themes emerged from the qualitative data within which themes surrounding resistance to change including organisational and individual internal and external factors emerged.

### Conclusions

The RCT found no significant differences between groups. The qualitative data pinpoint barriers to adoption of the service which can be understood in the context of organisational change and change management. There is support for resistance to change<sup>8</sup>, seen as an instrumental factor inhibiting the adoption of new workplace policies<sup>9</sup>. Other important factors emerged suggesting the application of multiple change models may be appropriate for successful management of such complex change programmes<sup>1</sup>.

### Acknowledgements

This trial was funded by the Department of Health for England and Wales, though managed by a collaboration of the National Pharmaceutical Association, the Royal Pharmaceutical Society of Great Britain, the Company Chemist Association, and the Co-operative Pharmacy Technical Panel, led by the Pharmaceutical Services Negotiating Committee.

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## Can Pharmacist Medication Reviews Ever Have an Impact on Hospital Admissions?

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Primary care pharmacists in the UK are encouraged to demonstrate their contribution to reducing hospital admissions. Several randomised controlled trials of pharmacist medication review have included all hospital admissions as an outcome measure. Most failed to detect differences. One recent meta-analysis, which found no significant effect of pharmacist interventions on total admissions, included three UK studies.<sup>1</sup> The analysis included some studies restricted to single disease states but excluded two others powered to evaluate effects on re-admissions. Another meta-analysis of studies among elderly people not focused on one disease state, also found no effect on all-cause re-admissions.<sup>2</sup>

The majority of interventions made by pharmacists during medication reviews consist of relatively minor amendments to medication, monitoring or advice. So is it reasonable to expect an impact on hospital admissions?

Detecting changes in total admissions is extremely difficult because only a minority of patients receiving reviews will be admitted to hospital (studies report figures of between 8 and 18%).<sup>3,4</sup> Only a very small proportion (approximately 4.3%) of hospital admissions are drug-related and preventable.<sup>5,6</sup> We calculate that studies would require tens (or even hundreds) of thousands of patients to be reviewed to detect any effect of medication reviews on total admissions.

If pharmacists can detect patients at risk of drug-related admission and take effective preventative action during medication review, our calculations show that more realistic sample sizes (one to five thousand) might allow the detection of a reduction in the more specific end-point of preventable, drug-related admissions. Is this more deliverable?

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## **GP Implementation of Secondary Care Prescribing Recommendations; a Qualitative Study**

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### **Background**

The ability to provide effective healthcare can rest on the successful transfer of relevant and timely information between individuals and organisations<sup>1</sup>. Although prompt implementation of specialists' recommendations is required, some can remain unactioned. A qualitative study was carried out to explore factors that influence the implementation of secondary care prescribing recommendations in primary care, ascertaining why certain recommendations may not be implemented.

### **Method**

A range of practice staff (GPs, nurses, practice managers and receptionists) were approached to participate in an ethically approved exploratory study. Thirty-six semi-structured interviews were carried out January - July 2005 across three PCTs in England. All audio-taped interviews were transcribed verbatim and analysed comprehensively using the five stage "framework" approach aided by N-VIVO 2.0.

### **Findings**

Factors influencing the implementation of secondary care recommendations can be hospital-related, GP-related or patient-related, with other factors such as vague or imprecise wording of recommendations also apparent. Hospital related factors included i) choice of drugs made by secondary care clinicians conflicting with existing policies within general practices and ii) perceived lack of hospital awareness of previously tried medication. GP related factors included i) GP familiarity with hospital recommended drugs, ii) Uncertainty surrounding particular dosage regimes and iii) perceived cost and responsibility of prescribing. Patients' perceived need for hospital recommended drugs was also a factor.

### **Conclusion:**

This study has helped provide a deeper understanding of the many factors influencing GPs when implementing secondary care prescribing recommendations. Our findings have important implications for future attempts to improve the continuity of patient care between different healthcare providers.

### **References**

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## What are Antibiotics Being Prescribed for in Children, and How Has This Changed Over Time in UK General Practice?

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### Aims

What are antibiotics being prescribed to children for and how has this changed over time?

### Methods

Oral antibiotic prescribing data for the main indications (as identified by a study of 100 random patients from the General Practice Research Database (GPRD)) were extracted from the GPRD for children aged 0-15 years, between 1st January 1990-31st December 2005. The GPRD contains anonymised primary care records for approximately 5% of the UK population.

### Results

We previously noted a decrease in paediatric antibiotic prescribing between 1990-2005. However, prescribing by diagnoses has remained relatively stable over this period.

**Table I: Antibiotic prescribing by diagnoses in 0-15 year olds**

Diagnosis	% Antibiotic Prescriptions	
	1990	2005
Other	71	50
Upper Respiratory Tract Infection/Cough	5	12
Ear-pain/Otitis Media	7	10
Lower Respiratory Tract Infection/ Respiratory Tract Infection	4	9
Tonsillitis/Pharyngitis	6	8
Acute Otitis Media	4	5
Impetigo	1	3
Fever	1	2
Urinary Tract Infection	1	1

Most notable differences lie within the 'upper respiratory tract infection/cough' (7% increase), 'lower respiratory tract infection/respiratory tract infection' (5% increase) and 'other' (21% decrease) categories (further work is necessary to determine the 'other' indications). There are still many prescriptions for upper respiratory tract infections, thus indicating it is probably possible to reduce prescribing even further.

### Conclusion

Paediatric antibiotic prescribing has decreased over the past 15 years. Prescriptions by diagnoses have remained relatively stable. Further reduction in prescribing may be possible.

## Using Bayesian Methods in Evidence Synthesis: Examining the Risk–Benefit Ratio of TNF Inhibitors with Direct and Indirect Comparisons

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### Introduction

Systematic reviews of randomised controlled trials (RCTs) always focus on direct comparisons of treatments (often against placebo). More recently, Bayesian methods have been used to simultaneously compare treatments using direct and indirect evidences.<sup>1</sup> This study aims to compare the risk-benefit profile of three TNF inhibitors, based on pair-wise and multi-arm comparative studies, within a Bayesian multiple treatments comparison evidence structure.

### Methods

RCTs were identified through electronic searches to November 2006. Studies were included if they used licensed doses of efalizumab, etanercept or infliximab in the treatment of psoriasis. Primary outcomes included proportions of patients (i) achieving a 75% improvement in Psoriasis Area and Severity Index (PASI 75) scores, and (ii) experiencing serious adverse events (SAEs). All calculations were undertaken in WINBugs software using Bayesian Markov Chain Monte Carlo simulation methods.<sup>2</sup>

### Results

12 RCTs met the inclusion criteria including 5586 patients. All three TNF inhibitors were found to be more effective in achieving PASI 75 score than placebo. Only infliximab was associated with a significantly higher risk of SAEs. Indirect comparisons between TNF inhibitors found that infliximab was consistently more effective than any of the other TNF inhibitors, but was associated with higher rates of SAEs (Table 1).

**Table 1: Odds ratios (OR) for direct and indirect comparisons of TNF inhibitors in the treatment of psoriasis**

TNF inhibitor comparison	PASI 75 OR (95 % CI)	SAEs OR (95 % CI)
Efalizumab vs placebo	11.03 (7.02, 16.89)	2.73 (0.75, 8.35)
Etanercept (25 mg) vs placebo	14.24 (7.79, 25.77)	3.20 (0.05, 16.89)
Etanercept (50 mg) vs placebo	24.97 (14.46, 42.20)	4.74 (0.23, 22.38)
Infliximab vs placebo	137.4 (47.97, 338.70)	14.58 (1.05, 74.29)
Etanercept (25 mg) vs efalizumab†	1.36 (0.62, 2.74)	1.72 (0.02, 9.15)
Etanercept (50 mg) vs efalizumab†	2.38 (1.14, 4.54)	2.56 (0.07, 12.41)
Infliximab vs efalizumab†	13.13 (3.96, 34.62)	8.14 (0.31, 41.60)
Etanercept (50 mg) vs etanercept (25 mg)	1.83 (1.06, 2.83)	20.46 (0.06, 90.34)
Infliximab vs etanercept (25 mg)†	10.61 (2.80, 28.40)	69.17 (0.23, 296.80)
Infliximab vs etanercept (50 mg)†	5.94 (1.68, 15.76)	17.70 (0.16, 86.55)

OR: odds ratio; 95% CI: 95% credible interval; PASI: Psoriasis Area Severity Index; SAEs: serious adverse events.

†: indirect comparison

### Conclusion

Bayesian analysis that combines direct and indirect evidences can be used successfully for a better decision making in healthcare. In this analysis, infliximab was the most effective, but was also associated with the highest rates of SAEs.

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## Meta-Analysis of the Efficacy and Safety of Zolmitriptan in Treating of Migraine

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### Background

With a growing number of triptan drugs and different formulations, evidence-based information is important to guide physicians' decisions on choosing treatments for the migraine management. This meta-analysis aimed to assess the comparative efficacy, safety and tolerability of zolmitriptan based on randomised controlled trial (RCT) evidence.

### Method

We identified RCTs by computerised searches of Medline (1966-November 2006) and Embase (1980-November 2006), and included studies that used zolmitriptan in licensed doses to treat acute migraine attacks and reported relevant efficacy and safety outcomes. The proportions of patients (i) achieving a pain free response at two hours post-dose and (ii) experiencing any adverse events within 24 hours post-dose were pooled using a random effects model.

### Results

Pooled risk ratios and 95% confident intervals for these outcomes from the 20 included trials (14,341 patients) are shown in the table.

Comparison	Pain free	Adverse events
<i>Zolmitriptan 2.5 mg vs. placebo</i>		
Oral tablet	2.39 (1.70, 3.35)*	1.60 (1.22, 2.10)*
Orally disintegrating tablet	2.65 (1.46, 4.82)*	2.26 (1.75, 2.91)*
Nasal spray	-	1.85 (1.40, 2.44)*
<i>Zolmitriptan 2.5 mg vs. oral triptans</i>		
Almotriptan 12.5 mg	1.06 (0.94, 1.21)	1.09 (0.86, 1.39)
Eletriptan 40 mg	0.82 (0.66, 1.03)	1.13 (0.92, 1.39)
Naratriptan 2.5 mg	-	1.59 (1.10, 2.30)*
Rizatriptan 10 mg	0.83 (0.67, 1.01)	1.27 (1.02, 1.58)*
Sumatriptan 50 mg	-	0.95 (0.75, 1.21)
* P<0.05		

### Conclusion

Zolmitriptan 2.5 mg is more effective than placebo in treating migraine but is associated with more adverse events. In comparison to other triptans, there were no significant differences in pain-free response, but zolmitriptan had significantly higher rates of adverse events than naratriptan 2 mg or rizatriptan 10 mg.

## Do Patient Information Leaflets Meet Patients' Needs for Describing the Likelihood of Side Effects?

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### **Background**

The most important information that patients want to know about medicines is the likelihood of side-effects. All patients should receive such information in the patient information leaflet supplied with all medicines. Anecdotal evidence suggests that most leaflets give little indication of likelihood. Best practice suggests using a combination of words and numbers to convey this information. However, a European Union (EU) Guideline suggests using five verbal descriptors e.g., *common* and *rare*, the use of which has been shown to lead to gross overestimation of the risk of side-effects.

### **Methods**

We surveyed the leaflets supplied with the 50 most prescribed medicines in England, to determine the extent to which likelihood of side effects was described, and the method and formatting of the description.

### **Results**

Twenty of the 50 leaflets (40%) gave no indication of the likelihood of side effects happening. Six (12%) used the recommended EU terms and a further 20 (40%) used a wide range of other verbal descriptors. Only four (8%) leaflets provided any form of numerical indication of risk. Over half (26; 52%) presented long lists of side-effects in paragraphs of continuous text.

### **Conclusions**

Patient need is not being met in terms of the provision of usable information about the likelihood of side-effects. Most patients are getting no information, while some are being given verbal descriptors which lead to over-estimation of the risk. Very few leaflets used currently described best practice of presenting verbal descriptions alongside numerical information in the form of natural frequencies e.g., *common (affects less than 1 in 10 people)*.

## **Content Validity and Readability Estimates of Selected Anti-malarial Medicine Information Leaflets Sold Over the Counter in Nigeria**

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### **Introduction**

In Nigeria, a great number of people self-medicate with over the counter anti-malarial medicines, notwithstanding their limited knowledge of the medicines. Reading a Medicine Information Leaflet (MIL) enhances proper medication use for consumers. Thus, it is necessary to facilitate patient information in the use of these medicines<sup>1, 2</sup>. Consumers should be able to read, understand and comply with the leaflet information in order to make informed decisions about their health. However, some studies showed that only a limited number of consumers actually read or understand the content of MIL<sup>3</sup>.

### **Method**

Two hundred consumers of anti-malarial medicine selected by stratified random sampling completed an instrument developed to estimate the readability and content validity of the MILs of five selected anti-malaria medicines. The leaflets were further examined using Gunning Fog formula. The data obtained were analysed using descriptive statistics.

### **Results**

Reading age of the MILs ranged between 13 and 17 years for Chloroquine, Fansidar<sup>R</sup> and Arthemeter; thus, the leaflets were considered readable for the average consumer, whereas a range of >17 to 20 for Maloxine<sup>r</sup> and Camoquine suggested that average consumer could have difficulty in reading their information leaflets. The MILs were considered to be readable in terms of vocabulary levels, text organisation and ability to stimulate readers' interest but they were rated low in legibility, syntax and illustration.

### **Conclusion**

The selected anti-malaria medicine MILs contained adequate information that could effectively guide consumers although only three of the MILs were considered readable by an average consumer.

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## **Factors Influencing the Provision of Poor Counselling for Prescribed Medicines in Swedish Community Pharmacies**

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### **Background**

There has been criticism internationally concerning the quality of prescription counselling<sup>2</sup>, but systematic investigation of the influencing factors is scarce<sup>1</sup>. This study aimed to investigate the factors influencing very poor quality (“poor”) counselling for prescribed medicines in Swedish community pharmacies. Poor counselling was defined as receiving neither questioning nor information about the prescribed medicine.

### **Methods**

All community pharmacies in Sweden were informed and 100 were randomly selected, stratified by size and location. Each was visited by three different simulated patients; each presented a prescription for fluoxetine, naproxen or metformin. Counselling details, and information about the counselling person and the pharmacy, were recorded immediately afterwards using validated methods<sup>1</sup>. Data were weighted by strata size and analysed using Chi-square and logistic regression.

### **Results**

Data were available for 292 prescriptions (92 fluoxetine, 100 naproxen and 100 metformin). Poor counselling was provided for 53 (18.2%) prescriptions, with no questioning about 108 (37.0%) and no information for 75 (25.7%) prescriptions. The odds of poor counselling occurring was almost double when the staff member was over 50 years old (OR=2.1), during lunch-time (OR=1.7) and when the prescription was for metformin (OR=1.9).

### **Discussion**

This is the first study of its kind in Europe and confirms the importance of therapeutic class<sup>2</sup> and busy times<sup>1</sup> as an influence on the provision of prescription counselling. The overall number of people receiving very poor quality counselling was less than in the American study<sup>1</sup>, but there is still considerable room for improvement.

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## **Can Resistance to Multiple Medicines Prompt a Lifestyle Change?**

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### **Background**

Type 2 diabetes (T2D) is strongly associated with cardiovascular disease (CVD). Management typically begins with lifestyle interventions before proceeding to control through multiple medicines. Evidence suggests that adherence levels fall as more medicines are prescribed. This may be influenced by perceptions towards multiple medicines, resulting in resistance. Resistance to medicines and perceptions of multiple treatments may manipulate health behaviours (particularly adherence and lifestyle management). However, these relationships remain unexplored.

### **Aims**

The aim of this qualitative study was to explore perceptions towards multiple medicines by patients with T2D and CVD. Seventeen patients participated in semi-structured interviews lasting approximately one hour. The interviews were analysed using a constructivist grounded theory framework.

### **Findings**

Patients managing complex regimens often expressed 'resistance' to multiple medicines. The desire to minimise medication, opposing additional prescriptions, regretting agreements to adhere and selective non-adherence were apparent. Fears of chemical interactions, lifestyle management guilt and low autonomy drove resistance to multiple medicines.

Many resistant patients wanted to reduce medication through lifestyle alterations (trading fewer medicines for exercise, diet and weight management). Many described turning their wishes into a goal, but were unsure of its realism. General practitioners were seen as facilitators to achieving this goal.

### **Conclusion**

Revisiting lifestyle management goals to reduce medication is an aim for patients resistant to multiple medicines. Resistance to multiple medicines appears to motivate lifestyle goal-setting. Healthcare professionals should explore perceptions towards multiple medicines with a view to potentially restructuring other health behaviours.

## Qualitative Study Of Medication-Taking Behaviour In Community Based Patients With Chronic Non-Cancer Pain

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### Introduction

Understanding patients' perspectives on medication and their medication-taking behaviour is an important step in helping to improve management. However community-based research in chronic pain patients has been limited<sup>1, 2</sup>. Our objectives were to (i) identify patterns of pain medication-taking behaviour, (ii) explore patients' perspectives on pain medication and (iii) explore relationships between these perspectives and behaviour patterns.

### Methods

Community-based patients with chronic pain were identified through the computerized prescribing records of two general practices in Aberdeen. Patients who were actively taking chronic pain medication (non-opioid analgesics and/or opioid analgesics and/or adjuvant drugs) were included. Fourteen patients were randomly selected for semi-structured interview, which was audio-taped and transcribed. The framework approach<sup>3</sup> was used for the qualitative analysis, supported by Nvivo 7.0.

### Results

Five patterns of pain medication-taking behaviour were identified, related to type of pain medication, (categorized into two main drug groups: analgesics and adjuvant drugs). Patients expressed a range of perspectives on pain medication use including general, positive and negative attitudes, outcome expectation, and concerns about side effects and long-term use. A model of pain medication-taking behaviour was developed and underlying factors were investigated. The key factors included impact of pain, perception of having pain and its management, attitudes, knowledge of drug use, good therapeutic outcomes, and concerns.

### Conclusions

These findings will improve our understanding of how patients use pharmacological approaches to manage pain. They will inform the development of practical and appropriate approaches to improving primary care management of chronic pain, with collaboration between GPs and pharmacists.

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## **Availability of Community Pharmacy Services through the Medium of Welsh**

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### **Background and Aim**

Previous research has found that Welsh-speakers would generally prefer to use Welsh when discussing health issues <sup>1</sup>, yet the availability of Welsh-speaking pharmacists and pharmacy staff in Wales is not known. The aim was therefore to investigate the availability of Welsh-speaking staff in community pharmacies in Wales.

### **Methodology**

A bilingual (Welsh-English) questionnaire was developed, piloted and mailed to all community pharmacies in Wales. Follow-up mailings took place after 3 and 6 weeks. The questionnaire asked about languages spoken by each member of staff and the availability of a Welsh language service. Data were entered into SPSS 12 for analysis.

### **Results**

Of 718 questionnaires distributed, a response rate of 76% (n=542) was achieved (5 were ineligible and 2 were not analysable). The majority of pharmacies (n=386, 71.7%) said they had Welsh-speaking customers yet only 40.2% (n=217) said that customers had the option of speaking Welsh in the pharmacy. Availability of a Welsh-language service was advertised in some pharmacies through the use of badges (n=46, 24.0%), posters (n=17, 8.9%) or the laith Gwaith scheme <sup>2</sup> (n=13, 6.8%), yet the majority relied on informal methods such as local knowledge (n=166, 86.5%). Five pharmacies said the customers would not know such a facility was available to them.

### **Conclusions**

Some Welsh-speaking patients do not have access to a pharmacy offering a Welsh-language service, and others may not realise they have access to such a service due to lack of formal publicity. This may impact on patients' satisfaction and even their health outcomes. These issues will be further investigated.

### **References**

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## Design Specification for NHS IT Systems to Minimise Risk of Harm to Patients from Medications

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### Background

Over 4% of hospital admissions are caused by preventable drug-related morbidity (PDRM) and 2% of inpatients will experience PDRM.<sup>1, 2, 3</sup> Medication errors can be reduced by over 80% using computerised physician order entry with decision support.<sup>4</sup>

### Aim

To identify the most common drug causes and process errors associated with PDRM and select those where clinical decision support software for NHS ePrescribing systems could minimise the risk of patient harm from medications.

### Method

RH hand-searched a reference collection (391 papers) on PDRM in primary and secondary care, and updated a literature review of PDRM in hospital.<sup>5</sup> RH abstracted the most common drug causes and process errors associated with PDRM.

A panel (with expertise in medication safety and implementing computerised clinical decision support) reviewed the literature review results and reached consensus on the most important drug causes and process errors. A draft design specification for clinical decision support software was developed based on these data.

### Results

Fifty papers from the reference collection, and 30 additional papers, were included in the review. We identified 20 drug groups (7 drug classes: anti-inflammatories, anti-microbials, anti-thrombotics, cardiovascular, central nervous system, endocrine and vinca alkaloids) that could benefit from clinical decision support and 16 key decision support functions (5 categories of process error: dosing, cautions & contraindications, allergy, drug-drug interactions, and monitoring).

### Conclusions

We have identified 16 key functions that clinical decision support systems should incorporate and highlighted 20 drug groups where the greatest benefit is likely to be found. These should reduce PDRM in the NHS.

### References

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## The Use of the Critical Incident Technique to Investigate Prevented Dispensing Incidents Developed by Key Informant Interviews, Focus Group and Observation

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### Introduction

Prevented dispensing incidents are errors identified before the medication left pharmacy<sup>1, 2, 3, and 4</sup>. The critical incident technique has been used to study causes of adverse events<sup>5</sup>. This study evaluated causes of prevented dispensing incidents within hospital pharmacy using self-reported critical incident forms.

### Methods

In June 2005 three key informant interviews and focus group were conducted to determine dispensary workflow, which was then validated by a piloted non-participant observational study at three Welsh hospitals. Forms were then developed to collect dispensing incident data involving drugs at high risk dispensing incidents<sup>6, 7</sup>. Sixteen Welsh hospitals participated in the four-month study (January-August 2006).

### Results

Dispensary workflow encompassed the events: prescription receipt, validating patient information, log of prescription, technical check, clinical check, label generation, stock selection, medicines assembly, product labelling, completion of registers, self-checking/endorsing and final accuracy check.

Twenty-four incidents were reported by ten hospitals involving paediatrics (n=9.38%), morphine sulphate (n=5.21%), insulin (n=5.21%), ACE inhibitors (n=3.13%), nifedipine (n=2.8%). Incidents commonly occurred at label generation (n=9.43%) and stock selection (n=9.43%), caused by error-producing conditions, active and latent failures. Active failures involved dispensing wrong quantity of medication, interchanging different formulations, computer and stock selection errors. Error-producing conditions were high workload, complex prescriptions and interruptions. Latent conditions were inadequate staffing/skill mix, unclear drug computer selection lists and drug storage on dispensary shelves.

### Discussion

The critical incident technique provided an in-depth understanding of causes. Dispensing incidents arose because of organisational pathologies, error producing conditions and active failures. Strategies for minimising dispensing incidents include improved workforce planning, staff training and design of pharmacy computer software.

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## **The Impact of Accredited Checking Technicians on Community Pharmacy Services: The Views of Pharmacists**

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### **Introduction**

In some pharmacies the task of checking prescriptions has been delegated to accredited checking technicians (ACT). This study uses qualitative techniques to investigate the pharmacist's views on the impact of ACTs on community pharmacy services.

### **Method**

Semi-structured interviews were conducted with a purposive sample of 15 community pharmacists. The sample contained pharmacists from a variety of settings (multiples, independent and locums) and included those that worked with an ACT and those that did not. Transcriptions of the interviews were subjected to a thematic analysis.

### **Results**

Pharmacists that worked with ACTs thought that training a technician to become an ACT allowed them to increase the range of services they provided. These pharmacists said, instead of checking prescriptions, they did more medicine use reviews, repeat dispensing, supply through patient group directions and health screening.

The majority of pharmacists that did not work with ACTs thought ACTs would free up their time. However, some pharmacists thought ACTs would be used to cut costs in pharmacies with more than one pharmacist by replacing the second pharmacist with an ACT.

### **Discussion**

There have been reports that a lack of time prevents pharmacists from providing some of the services in the new contract<sup>1</sup>. The results here suggest ACTs could help pharmacists fulfill the requirements of the NHS contract if they are used to increase capacity. However, they will have no impact on service provision in pharmacies with more than one pharmacist if the aim is to cut costs and replace second pharmacists with ACTs.

### **References**

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**Organisational assessment of community pharmacies:  
A systematic review of the international literature**

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**Background**

Quality improvement of organisational aspects in community pharmacy practice is receiving increasing attention.<sup>1</sup> The aim of this study was to review the international literature on organisational assessments used in community pharmacy settings. This review involved examining the psychometric properties of the instruments used to measure this construct.

**Methods**

A systematic literature review of electronic databases was conducted and websites of the pharmacy organisations in English-speaking countries were also searched. Instruments found were examined for their design (source, development, items and scales), construct validity (content validity, factor structure), and reliability.

**Findings**

Ten instruments were examined which focussed on attributes contributing to provision and/or outcomes of care. These attributes included: safety culture; clinical governance activities; compliance with NHS Regulations; directive guidance when providing advice and patient satisfaction.

There was a lack of explicit theoretical underpinning for most instruments and the majority did not report standard psychometric criteria. Where this information was available, several instruments had limitations. Test-retest reliability and predictive validity were unknown for all instruments identified.

**Summary**

Greater consideration should be given to psychometric factors in the design of organisational assessments of community pharmacy practice. Ideally, community pharmacists and patients should be involved in the development of these instruments.

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## **How Do the Pharmacy Practice Research Trust Grants Support the Development of Research Capacity?**

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The Galen award and the Sir Hugh Linstead fellowship (the awards) are made annually to members of the Royal Pharmaceutical Society (RPSGB) to support the development of research capacity in pharmacy. The awards are made by the Pharmacy Practice Research Trust; an independent research charity founded by the RPSGB.<sup>1</sup> This study sought the views of award holders on perceived benefits to themselves.

Following ethics approval semi-structured, telephone interviews were audio-recorded, with consent, transcribed and analysed by coding and indexing the data. Of the 24 pharmacists in receipt of either award between 1995-2005, 16 were interviewed (67%).

Award-holders reported the funding being used, for example, to back-fill posts releasing time for research, pay fees for higher degrees or research training and development, purchase equipment, consumables and fund other expenses, expand the size and/or location of an ongoing study. Others said that without the funding the study would not have gone ahead. Most award holders had disseminated their findings via conference or other presentations, as abstracts or as papers in peer-reviewed journals. Benefits arising from individual awards varied but included improvement of clinical knowledge and skills, improved patient care, increased understanding of, and confidence in, developing, conducting and disseminating results of research, exposure to different methodologies, assisting with career development, increased or renewed enthusiasm for research and also establishing successful, continuing research collaborations. The benefits were varied but each participant considered that irrespective of the outcome of the study funded they had benefited from the award.

### **References**

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### **Acknowledgements**

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