C W Maplethorpe Postdoctoral Fellowship for Pharmaceutical Education and Research

Dr Julia Gilmartin
B.Pharm(Hons), GCPP, PhD

2013 – 2015 Fellow

Supervisors: Professor Felicity Smith and Dr Yogini Jani
Research Mentor: Professor Nick Barber

University College London (UCL)
School of Pharmacy
Overview

Presentation Purpose

• Introduce C W Maplethorpe Postdoctoral Fellowship for Pharmaceutical Education and Research

• Share my experiences as a current Fellow

  – My background
  – Fellowship application process
  – My project (Monitored dosage systems in care homes: improving safety or increasing hazard?)
  – Collaborative research
  – Teaching
C W Maplethorpe Postdoctoral Fellowship for Pharmaceutical Education and Research

- Founded under the will of the late Mr Cyril Wheatley Maplethorpe
- President of the Pharmaceutical Society of Great Britain from 1963 to 1965
- Passion for pharmacy education and career development of academic pharmacists
C W Maplethorpe Postdoctoral Fellowship for Pharmaceutical Education and Research

- Promote pharmaceutical education and research
- At UCL School of Pharmacy and the Department of Pharmacy at King's College London
- Each year, after advertising, a panel chooses up to two fellows (if possible, registered pharmacists)
- 1–2 year appointment (approval process)
- Past emphasis on the natural sciences – my project is pharmacy practice based
- Since 1983 many young pharmacists/other scientists interested in pharmacy research have benefited from Maplethorpe Fellowships
My Background

- Australian Registered Pharmacist

- 2013 awarded PhD from Monash University (Australia) – pharmacy medicine supply services in Australian care homes

- Passion for pharmacy education and research

- Postdoctoral training to further develop my pharmacy teaching and research skills
Fellowship Application Process

• Attracted to the C W Maplethorpe Postdoctoral Fellowship for Pharmaceutical Education and Research because it met my interests and future goals perfectly

• Wished to continue in my areas of expertise (medicine use in older persons/medicine systems in care homes/medicine errors) – although could have moved into different area

• Identified an academic at UCL whose research interests were in these areas (Professor Nick Barber) and proposed a project

• Developed 1000 word project plan/budget in collaboration with Nick’s colleague (Dr Yogini Jani)

• 2 referees (one is Head of Dept, PhD training), CV, letter of support from UCL Head of Dept

• Interviewed (skype)
Fellowship Application Process

- Awarded a Fellowship 2013 – 2015
- A fellow at UCL School of Pharmacy since 1\textsuperscript{st} December 2013
Monitored dosage systems in care homes: improving safety or increasing hazard?

Background

• Medicine administration – important medicine service provided to older residents of care homes (CHs)

• In the UK, monitored dosage systems/multi-compartment compliance aids (MCAs) are commonly used by CH staff for medicine administration

• Organise medicines according to the day of the week and time of the day in which they must be administered
Monitored dosage systems in care homes: improving safety or increasing hazard?

Background

• MCAs often prepared and supplied by community pharmacies

• Health professionals may perceive MCAs to be safer/more efficient compared with administering from original packaging (OP)

• Limited literature supports this

• No published study comparing MCAs with OP

• More research is needed to inform the use of MCAs
Monitored dosage systems in care homes: improving safety or increasing hazard?

Aim

- Study and understand how MCA and OP medicine administration systems affect the way in which medicines are managed in CHs
Monitored dosage systems in care homes: improving safety or increasing hazard?

Objectives/Methods

• Phase 1
  – Historical reasons for the initial introduction of MCAs into UK CHs
  – Current advantages and disadvantages of MCAs
  – MCA relevance in the future of CH medicine administration
  – Interviews (8 pharmacists)

• Phase 2
  – The effect of MCAs and OP on CH medicine administration accuracy
  – Staff perceived advantages and disadvantages of CH medicine administration systems
  – Observations and interviews (10 CHs, ~20 CH staff)
Monitored dosage systems in care homes: improving safety or increasing hazard?

Significance

• Increased understanding
  – Historical perspectives of MCA introduction
  – Advantages and advantages
  – Impact of MCAs and OP on medicine administration accuracy

• Assist health professionals involved in CH medicine management
  – Evaluating current systems of medicine administration and deciding on the best system for their CH
Monitored dosage systems in care homes: improving safety or increasing hazard?

Progress

- Literature review
- Study protocol
- UCL ethics approval
- Stakeholder interest
- Statistics training
- Approved for second year of Fellowship

- Completed Phase 1

- Commenced Phase 2
  - Pilot
  - Visited 3 CHs
  - Currently recruiting further 7 CHs
Monitored dosage systems in care homes: improving safety or increasing hazard?

Phase 1 Findings

• MCAs initially introduced to address unsafe CH medicine administration practices (makeshift MCAs)

• Widespread MCA use encouraged with free CH staff training/MCA supply, assurances of improved medicine administration safety/efficiency

• MCA limitations: professional deskilling, medicine wastage, increased pharmacy workloads, unnecessary if staff administer, CH staff detachment

• CHs will continue to use MCAs in the future (no catalyst for change)

• MCAs may have a place in medicine administration (with medicine review services)
Collaborative Research

- Alzheimer’s Australia Rosemary Foundation Travel Grant Postdoctoral Research (Monash University and the University of Eastern Finland)

Publication: ‘Depressive symptoms are associated with analgesic use in people with Alzheimer’s disease: Kuopio ALSOVA study’ (PLoS ONE, accepted)

- Presentations
  - National Medicines Symposium (Australia)
  - Australian Association of Gerontology (Australia)
  - Monash University (Australia)
Collaborative Research

- UCL Department of Pharmaceutics

Publication: ‘Multi-compartment compliance aids (MCAs): Application to the geriatric community’ (Eur Geriatr Med, accepted)

Publication: ‘Taking the guesswork out of supplying multi-compartment compliance aids: do pharmacists require further guidance on medication stability?’ (Int J Pharm Pract, under review)
Collaborative Research

• UCL Research Cluster member ‘Medicines use: systems and practice’

• Presentations
  – International Social Pharmacy Workshop (USA)
  – PhD research, supported by a financial contribution from the Fellowship

Publication: ‘Evaluating multifactorial quality improvement introduced into the medicine supply services of Australian pharmacies and aged care facilities’ (Australas J Ageing, under review)
Teaching

- Undergraduate pharmacy students in the Department of Practice and Policy, UCL
  - Greenlight Pharmacy Euston (mock pharmacy)
  - Workshops in pharmacy medicines scheduling, communication and counselling, providing medicine use reviews, responding to primary care queries
  - Tutorials at UCL School of Pharmacy in health promotion, pharmacy law and ethics

- Undergraduate pharmacy, and pharmacy technician, students at UCL School of Pharmacy
  - Workshop encouraging interprofessional learning (role-play and constructive feedback, medicine dispensing errors)
Teaching

• Supervision of Erasmus students (in collaboration with UCL Department of Pharmaceutics)

• ‘Evaluation of multi-compartment compliance aids in community pharmacies’

• Mentoring and tutoring

• Literature reviews, research study design and development, questionnaire development and testing, ethical applications, sourcing professional research stakeholders
Teaching

• Examined undergraduate and postgraduate pharmacy students
  – Posters
  – Objective Structured Clinical Examinations (OSCEs)

• Mentored pharmacy PhD students in the Department of Practice and Policy
Acknowledgements

• I wish to thank the Management Panel for providing me with the opportunity to conduct research and teaching in the field of pharmacy, with the support of the Fellowship and for the opportunity to speak to you today

• I have thoroughly enjoyed my experience thus far and I am establishing the ideal foundations for my future role as a pharmacy researcher, teacher, academic

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My colleagues at UCL School of Pharmacy
Thank you

Questions?

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1. Summary for historic list of fellows

Gilmartin, Dr Julia Fiona-Maree (SoP) - 1st December 2013 to 30th November 2015

‘Monitored dosage systems in care homes: improving safety or increasing hazard?’

Reports: September 2014, August 2015

Publications:
2. GILMARTIN JF-M. Informed, tailored and targeted pharmacy support for nurses administering medicines in care homes. Integrated Pharmacy Research and Practice (accepted, 2015)
1. Summary for historic list of fellows

Summary of work:
Multi-compartment compliance aids (MCAs) are used to organise medicines into dosing schedules and are used by UK care home (CH) staff to administer medicines. Limited literature supports perceptions of increased safety associated with administering medicines from MCAs compared to original medicine packaging (OP). This study aimed to understand how MCAs and OP affect the way in which medicines are managed in CHs.

Semi-structured interviews with eight pharmacists identified that MCAs were originally introduced into UK CHs to address unsafe medicine administration practices and because of pharmacy commercial interest. It was predicted that MCAs will continue to be used in the future due to their perceived benefits of improved safety and efficiency, although some pharmacists recommended removing MCAs and training CH staff to administer medicines from OP.

Medicine administration was observed in 10 Greater London CHs which used MCAs or OP. Up to four days was spent at each CH, observing up to three medicine administration rounds per day, to achieve a total study sample size of approximately 2,250 observed medicine doses. Medicine administration discrepancies, barriers and facilitators were observed. Semi-structured interviews with 23 CH staff who administered medicines ascertained perspectives on the advantages and disadvantages of MCAs and OP.

Subsequent post: I have applied for an Australian early career researcher postdoctoral fellowship to refine my pharmacy research and teaching skills. I am also exploring how to facilitate continued collaboration with UCL School of Pharmacy in areas of pharmacy research and teaching.