Evaluation of Community Pharmacy Medicine Use Review service in Northern Ireland

Team Members:

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MPharm Undergraduate students (10 Students)

Background

Diabetes
Diabetes is a common health condition in which the amount of glucose in the blood is too high because the body cannot utilise it effectively. There are two main types Type 1 Diabetes which develops if the body cannot produce insulin which helps the glucose to enter the cells and type 2 diabetes in which the body still produces insulin but not enough or when the insulin produced does not work effectively (insulin resistance). Approximately 3.2 million people in the UK have been diagnosed with diabetes mellitus: The prevalence of diabetes in UK is 6% and in the Northern Ireland population prevalence is now over 4%. There are also an estimated 10,000 people who have diabetes but have not yet been diagnosed. Health and Social Care expenditure on diabetes is estimated at 10% of the total HSC budget and is projected to rise to 17% by 2025 (Diabetes UK.)

The Transforming Your Care report identifies community pharmacy as a first port of call to enable patients to develop a better understanding of their long term conditions and the medicines used to treat them.

Respiratory Disease
Prevalence of respiratory disease is increasing in the UK. It is the most commonly reported long term illness in children and the third most commonly reported in children (DOH 2012).

There are around 1,000 deaths from asthma each year in the UK the majority of which are preventable. There are 182,000 people in Northern Ireland who are living with asthma. In 2010 £49 million was spent on respiratory medicines in Northern Ireland. Inhaled combination therapy which includes inhaled corticosteroid therapy
(ICS) with the addition of long acting beta 2–agonist (LABA) accounts for 47% of this total (HSC 2010). Medicine Use Reviews in community pharmacy provide an opportunity for patients to receive pharmaceutical care that they require by providing them with the opportunity to discuss their medicines and the management of their respiratory condition with the pharmacist in the pharmacy.

**Medicine use Reviews**

Medicines Use Review (MUR) service allows community pharmacists to invite people on long-term respiratory and diabetic medicines for a review of all of their medicines. The review aims to improve the patient’s knowledge, adherence and use of their medicines. The service is commissioned by the Health and Social Services Board, and provided by community pharmacies across all 5 Local Commissioning Group (LCG) areas.

Although this is a valued service by patients, the information gained from the reviews is often not shared and there are no tangible patient outcomes recorded which demonstrate a clinical value of the service. There is limited published evidence on improved clinical outcomes or patient perspectives following a MUR.

In 2013-2014 in over £500 000 was spent on MUR services in community pharmacy in Northern Ireland.

Of the MURs undertaken within the respiratory target group, 67% of those completed in Northern Ireland have matters identified following the MUR, to date the outcomes of these matters identified have not been evaluated. Likewise 14% of patients who have undergone an MUR have been referred to their GP or other health care professional without the outcomes of these referrals being evaluated.

**Research Aims**

This research aims to evaluate the MUR service against the following objectives using a mixed method approach of qualitative and quantitative methodology.

**Data collection Period Jan – Jun 2015**

**Objectives**

1. Determination of patient outcomes associated with Medicines Use Reviews undertaken in community pharmacy for patients in each of the target therapeutic groups
2. Evaluation of patients opinions associated with Medicines Use Reviews undertaken in community pharmacy
3. Determination of outcomes from patient referral onwards to their GP or other health care professional associated with Medicines Use Reviews undertaken in community pharmacy for patients in each target group
4. Evaluation of community pharmacist opinions associated with Medicines Use Reviews undertaken in community pharmacy
5. Exploration of General Practice and other HCP opinions associated with Medicines Use Reviews undertaken in community pharmacy
6. Evaluate the effectiveness of MUR in patient understanding of their medicine (Patient understanding questionnaire). The questionnaire will be conducted both before and after MUR has been carried out.

Objectives

1. Determination of patient outcomes associated with Medicines Use Reviews undertaken in community pharmacy for patients in each of target therapeutic groups

5 Students in each LCG (Oct 15-Nov 15)

(Belfast) Sara Gardner
(North) Laura Quinn
(SE) Ryan Rosbotham
(South) Sean McEvoy
(West) Andrea McHugh

The study design is to follow outcomes of MURs completed for patients with diabetes and/or respiratory conditions completed in HSCB in Northern Ireland from May - Oct 2014 (13377). Statistical power calculations, with alpha = 0.05 (95% CL) and power 0.8, recommend a minimum sample size of 374 (Raosoft 2004).

Patient Documentation from 400 MUR consultations will be collected from pharmacies within each LCG representing high medium and low activity in provision of MURs. These will initially be randomly sampled using an audit tool. Results will then be used to inform sample size calculations and numbers adjusted accordingly (in agreement with ethics) if required.

Method(s)

1. Develop an audit tool from the literature in order to collate data provided by the Health and Social Care Board on MURs carried out in each LCG.
2. Record on the developed data collection tool, the relevant data on the sample for selected pharmacies in each LCG:
3. Analyse the data collected to determine the impact of MURs on patient ability to manage their medicines.

2. Evaluation of patients opinions associated with Medicines Use Reviews undertaken in community pharmacy

BW Jan16-Jun16

Method(s)

Develop a questionnaire from the literature in order to determine from patients their

1. Opinions on provision of MUR service within Community pharmacy
2. Factors that influence the decision to avail of MUR service.
3. Patient satisfaction levels with MUR service provision
4. Understanding of their medicines and management of long-term respiratory and diabetic conditions

Each LCG representative will distribute a patient information sheet and a questionnaire to patients sampled in objective 1 who received a MUR. A link will also be provided to the patient information sheet and questionnaire on to the Asthma UK website, Diabetes UK website and HSCB website which will host the questionnaire. Patient responses to the questionnaire will initially be randomly sampled. Results will then be used to inform sample size calculations and numbers adjusted accordingly (in agreement with ethics) if required.

3. Determination of outcomes from patient referral onwards to their GP or other health care professional associated with Medicines Use Reviews undertaken in community pharmacy for patients in each target group

BW Jun16-Oct16

1. Develop a data collection tool from the literature in order to collate outcomes of referral from MURs carried out in each LCG.

2. Complete a power sample calculation to determine adequate sample size with representation of referrals from all community pharmacy providers to their GP or other HCP.

3. Record on the developed data collection tool, the outcomes of the referral to determine the impact of MURs on patient outcomes
4. Evaluation of community pharmacist opinions associated with Medicines Use Reviews undertaken in community pharmacy

5 Students in each LCG (Oct 16-Dec 16)

Method(s)

Part 1

Develop a questionnaire from the literature in order to determine pharmacists

   1. Opinions on the provision of MUR service within community pharmacy
   2. Challenges faced conducting MURs.
   3. Identification of additional support or teaching required to provide effective MUR service provision in community pharmacy

All pharmacists within each pharmacy in LCG area who provided MURs within the study period will be invited to complete the questionnaire. A link will also be provided on the HSCB/BSO website which will host the questionnaire. Responses to the questionnaire will initially be randomly sampled. Results will then be used to inform sample size calculations and numbers adjusted accordingly (in agreement with ethics) if required.

Part 2

Focus groups will be used to complement the results from the questionnaire to explore and provide a valuable insight into the attitudes and opinions of community pharmacists on MURs in a controlled setting.

5. Exploration of General Practice and other HCP opinions associated with Medicines Use Reviews undertaken in community pharmacy

BW Oct 16-Dec 16

Method(s)

Part 1

Develop a questionnaire from the literature in order to determine General Practice and other HCP opinions. The questionnaire will be distributed through a link on the HSCB intranet

   1. Opinions on the provision of MUR service within community pharmacy
   2. Challenges faced when actioning outcomes MURs.
   3. Experience of referral pathways used for recommendation of patients into MUR service
   4. Identification of additional support or teaching required to provide effective MUR service provision in community pharmacy
Focus groups will be used to complement the results from the questionnaire to explore and provide a valuable insight into the understanding attitudes and opinions of General Practice and other HCP opinions on MURs in a controlled setting.

6. Evaluate the effectiveness of MUR in patient understanding of how they use their medicines (Patient understanding questionnaire). The questionnaire will be conducted both before and after undertaking a MUR.

BW Jan 17- Mar 17

Method(s)

Patients will be recruited with assistance from Integrated Care pathway leads in each LCG area. Results will then be used to inform sample size calculations and numbers adjusted accordingly (in agreement with ethics) if required.

1. Develop an audit tool from the literature in order to collate data on patient understanding of how they use their medicine
2. Complete a power sample calculation to determine adequate sample size with representation from all community pharmacy providers within each LCG.
3. Record on the developed data collection sheet, the relevant data relating to patient understanding of the medicines used to treat their condition before they undertake a MUR
4. Record on the developed data collection sheet, the relevant data relating to patient understanding of the medicines used to treat their condition after they undertake a MUR
5. Analyse the data collected to determine the impact of MURs on patient understanding of the medicines used to treat their condition

Exclusion criteria:

Participants will be excluded if they are under 18 years or over 80 years of age.

Participants over 80 years have been excluded from the study as the prevalence of MURs conducted in this age group of patients taking medicines for treatment of respiratory and diabetes conditions is very low. Exclusion criteria include MUR for patients that do not have diagnosis of respiratory condition or diabetes.

Statistical Analysis

All statistical analysis will be performed using SPSS software (SPSS UK Ltd, Chersey, UK). Data will be summarised graphically and in tabular form. Data will be checked for normality and skewed data will be log transformed before analysis.
Differences between grouping variables will be examined by using analysis of variance (ANOVA). For all analysis, P<0.05 will be considered significant.

**Ethical Issues**

Based on criteria of National Research Ethics Service the project will be classified as service evaluation, therefore ethical approval will not be required. However as it conducted within Ulster University it will be reviewed by The School of Biomedical Science Ethics Filter Committee. Informed consent has been obtained from all patients prior to their undertaking of the Medicines Use Review. The consent form signed by each patient provides agreement where in the opinion of the pharmacist it is appropriate to share with the Regional Board (HSCB) as part of a clinical audit. The participants will be made aware that they may withdraw from the study at any time. All data obtained will be coded and only disclosed to the Chief Investigator and other named investigators. Data will be stored on a secure, password protected computer. All Data will be stored as required by the Data Protection Act.

**Personnel**

Personnel involved data collection and analysis will be the Chief Investigator Mrs Bronagh White, project Supervisor Dr Kathryn Burnett and MPharm Undergraduate students (10 students) to complete their dissertation for partial fulfilment of the requirement of their award of Master of Pharmacy. Mrs Gillian Plant is Pharmaceutical Services Co-ordinator at the HSCB and is liaison officer between the University and the HSCB.

**Dissemination of results**

Results will be disseminated to researchers and health professionals through presentations at conferences and publications in peer reviewed articles.

**HSCB considerations**

Honorary contracts to be completed by all UU researchers

**Objective 1**
- Requires HSCB to all in 400 records from pharmacies across each LCG
- requires a student to be allocated in each LCG office with full access to MUR documentation completed from the randomly selected pharmacy for a period of 6-8 weeks September – November
- Liaison with CPNI to gain approval for access to the documentation for audit purposes

**Objective 2**
- Requires liaison with patient groups to contribute to development of questionnaire

Requires HSCB to distribute questionnaire

**Objective 3**
• Requires LCG representative to photocopy summary review of MUR consultation to give to chief investigator
• Requires Chief Investigator to have access to GP practice and access to PMR to enable determination of summary review from CP

Objective 4
• Requires access to BSO and CPNI to provide link to questionnaire

Objective 5 & 6
• Requires links with integrated care partnerships in respiratory and diabetic conditions to establish focus groups and referral pathways into MUR service

References


Transforming Your Care; a Review of Health and Social care in Northern Ireland (2011)