7th All Ireland Pharmacy Healthcare Conference

Tuesday 27th January 2015

Ballymascanlon House Hotel

Dundalk

Conference Proceedings

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The conference keynote address

“Steps to Excellence.“

Professor Ian Bates

Ian Bates holds the Chair of Pharmacy Education at the UCL School of Pharmacy as Head of Educational Development and is a Faculty Fellow of the Royal Pharmaceutical Society. He is seconded to the National Health Service (NHS) in London, as academic lead across the university teaching hospitals. Professor Bates is the Director of the Education Development Team for the International Pharmaceutical Federation (FIP), leading an international team appointed by FIP working in partnership with WHO and UNESCO, and additionally Editor-in-Chief of Pharmacy Education, an international peer review research journal hosted by FIP. He is a Fellow of the Royal Pharmaceutical Society, a Fellow of the Royal Statistical Society, a Fellow of the Royal Society for Public Health, and a Trustee for the European Pharmaceutical Students’ Association. He is a Programme Director for the Joint Programmes Board, providing foundation training and workplace education for practitioner development for NHS pharmacists; additionally, as a founder member of CoDEG, provides advice on workplace education for many domestic and international institutions and agencies. Professor Bates is the independent Expert Advisor for the Royal Pharmaceutical Society on educational matters and the nominated representative for Health Education England and the associated professional Advisory Board. He was appointed a Fellow of the International Pharmaceutical Federation (FIP) in 2013 in recognition of his global leadership in international education development, and additionally received the Lifetime Achievement Award from UKCPA.

Conference sponsors

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7th All Ireland Pharmacy Conference

9.30 – 10.00	Coffee and registration
10.00 – 10.15	Welcome and Introduction
10.15 – 10.30	Opening address Kate Mulvenna Chief Pharmacist HSE, Ireland
10.30 – 11.15	Keynote lecture *Steps to excellence* *Professor Ian Bates* *University College London and WHO*
11.15 -11.45	Coffee and poster viewing
11.45 -1.15	Parallel sessions - Antimicrobial stewardship - Care of older people - Workforce development
1.15 - 2.00	LUNCH
2.00 – 2.45	Coffee and poster viewing
2.45 – 4.15	Parallel sessions - Leading practice - Medicines management
4.15 – 4.30	Closing remarks Dr Mark Timoney Chief Pharmaceutical Officer DHSSPS, Northern Ireland

Oral presentations: **Care of older patients**

Time: **11.45 am – 1.15 pm**

Location: **The Garden Room**

Chair: **Cris Ryan**

Author	Title
David O'Riordan	Prevalence of potentially inappropriate prescribing and potentially prescribing omissions in older Irish adults: findings from the Thyroid hormone Replacement for Untreated older adults with Subclinical hypothyroidism; a randomised placebo-controlled Trial (TRUST)
Caroline Johnston	Implementation of a medication adherence support service for older people
Margaret Bermingham	Medication adherence in heart failure: prevalence and clinical relevance of non-adherence identified by structured patient self-report and medication possession ratio
Kimberly Jones	An evaluation of a service improvement - medicines optimisation in older patients admitted to the Ulster Hospital from care settings
Niamh McMahon	Potentially inappropriate prescribing of proton pump inhibitors in elderly inpatients
Carmel Darcy	Consultant pharmacist case management of older people in intermediate care

Prevalence of potentially inappropriate prescribing (PIP) and potentially prescribing omissions (PPO) in older Irish adults: findings from the Thyroid hormone Replacement for Untreated older adults with Subclinical hypothyroidism; a randomised placebo-controlled Trial (TRUST)

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Introduction

Older people can suffer from multiple conditions for which multiple medications are often required [1]. PIP is common in older people and is associated with serious morbidity, extended hospital stays, adverse drug events and in some cases mortality [2-4] . The prevalence of PIP and PPO were estimated using a subset of the Screening Tool of Older Persons Prescriptions/Screening Tool to Alert doctors to Right Treatment, STOPP/START criteria version 1 and 2 based on 258 community dwelling Irish adults aged ≥65 years screened for the TRUST study which is currently ongoing.

Methods

A subset of 40 PIP indicators and 14 PPO indicators from the STOPP/START version 1 criteria and 51 PIP indicators and 22 PPO indicators from version 2 were applied to the TRUST dataset. PIP/PPO prevalence according to both sets of criteria were estimated. Two reviewers (DOR and KW) carried out this secondary data analysis.

Results

Data on 258 patients screened in the study were analysed. The mean age (± SD) of the patients was 73.2 ± 5.1 years, 133 (51.6%) were female and 125 (48.4%) were male. The most common morbidity recorded was hypertension (53.9%). The median number of drugs consumed was 4. The overall prevalence of PIP was 14.7% (n=38) considering all 40 STOPP version 1 criteria while the overall prevalence of PPO was 16.7% (n=43) considering 14 START version 1 criteria. The overall prevalence of PIP and PPO using version 2 was 15.9% (n=41) and 20.5% (n=53) respectively.

Conclusion

These findings indicate that PIP and PPO are prevalent in older adults screened for a randomised control trial (RCT) using a subset of the STOPP/START version 1 and 2 criteria.

References

1. Gallagher P, Barry P, O'Mahony D (2007) Inappropriate prescribing in the elderly. Journal of Clinical Pharmacology and Therapeutics. 32:113–121.
2. Spinewine A, Schmader K, Barber N, Hughes C, Lapane K, Swine C, Hanlon J: Appropriate prescribing in elderly people: how well can it be measured and optimised? Lancet 2007, 370:173–184.
3. Jano E, Aparasu RR: Healthcare Outcomes Associated with Beers' Criteria: A Systematic Review. Ann Pharmacother 2007, 41:438–447.
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Implementation of a medication adherence support service for older people

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Introduction

Non-adherence to medication has been reported to be as high as 50%, leading to a reduction in expected clinical outcomes of therapy, a higher risk of avoidable medication related hospital admissions, and increased waste.[1]

Aims

1)To develop and test a mechanism by which patients could be referred to a medication adherence support service. 2) To develop and test an adherence assessment tool for use in both hospital and in community settings. 3) To explore the existence and supply of available adherence solutions. 4)To explore the feasibility of providing a monitoring and follow up service by community pharmacy.

Methods

All HSC professionals in 4 areas (2 per trust) were invited to refer patients meeting the criteria. 22 community pharmacies were trained and enrolled in the pilot, referring suitable patients and carrying out follow-up of assessed patients. Referred patients were assessed at home by the pilot leads, adherence issues were picked up and solutions identified to address these using a developed solution grid. Clinical interventions were recorded and graded according to Eadon criteria[2]. The impact of clinical interventions was costed using the SchARR model[3.]

Results

142 referrals were made to the service, 124 of which progressed to a domiciliary assessment.198 clinical interventions were made to optimise medications, 96% of which were graded ≥4 on the Eadon Scale. 347 adherence issues were identified including non-intentional and intentional issues. 514 solutions were recommended and 70% were implemented by the pilot leads. Solutions included education (17%), medication change (16%), medication disposal (12%), medication list (12%), community pharmacy filled blister pack (11%), synchronisation of quantities (6%), provision of a device (reusable compliance aid/pill popper) (5%). Potential cost avoidance was estimated at £37,965- £82,298.

Discussion

Pathways have been provided for patients having adherence issues to be supported in a tailored manner to improve adherence to medication, and ultimately health care outcomes. This in turn helps keep older patients independent at home.

References

1.Pirmohamed M et al. Adverse drug reactions as cause of admission to hospital: prospective analysis of 18 820 patients. British Medical Journal 2004; 329:15-19.
2.Eadon H. Assessing the quality of ward pharmacist's interventions Int J Pharm Prac 1992;1:145-47
3. Karnon J et al. Modelling the expected net benefits of interventions to reduce the burden of medication errors. J of Health Serv Res and Pol,2008;13(2):85-91

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Medication adherence in heart failure: prevalence and clinical relevance of non-adherence identified by structured patient self-report and medication possession ratio

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Aims

Few studies compare the clinical significance of different measures of medication adherence in clinical practice. This study aims to compare the prevalence of non-adherence identified using a subjective and objective measure and to evaluate the association of these measures with clinical outcome in heart failure (HF).

Methods

This is a prospective study of stable HF patients. Patients were assessed at baseline using (i) the patient self-report Morisky Medication Adherence Scale (MMAS) and (ii) medication possession ratio (MPR) obtained with the patient's consent from their community pharmacy. A patient was adherent where they had MMAS score = 4 and MPR ≥ 85%. The association of MMAS and MPR with all-cause events was evaluated using Cox proportional hazards methods with adjustment for age, sex and HF severity.

Results

Data were available for 103 patients (average age 69.5 ± 11.5 years, 72.8% male). Thirty three (32%) patients were non-adherent by MMAS, 23 (22%) were non-adherent using MPR and 11 (10.7%) were non-adherent by both methods. The primary endpoint occurred in 36 (35.0%) patients over a median follow-up period of 1.7 years. In adjusted analysis, adherence measured by MPR was associated with a reduction in all-cause events (hazard ratio 0.36, 95% confidence interval 0.17–0.76). There was no association between adherence assessed by MMAS and all-cause events.

Conclusion

Although a structured, self-reported measure is easier to use in clinical practice and identified a higher rate of non-adherence in this HF population, it was not associated with clinical outcome. An objective measurement such as MPR identifies non-adherence in a different subset of the population and may be more appropriate in identifying clinically significant non-adherence in HF.

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An evaluation of a service improvement – medicines optimisation in older patients admitted to the Ulster Hospital from care settings

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Introduction

With the ageing population, inappropriate prescribing in older people is becoming a global healthcare concern. The aim of this study was to develop a tool that could be used to facilitate medicines optimisation in older patients**.** Furthermore to evaluate the tool created by identifying the extent of potentially inappropriate medications (PIMs) used in this patient group and quantify the percentage of patients admitted due to an adverse drug reaction (ADR).

Method

Using published evidence bases and extensive literature research[1-3], a quick two-sided A4-page Medication Optimisation Tool (MOT) was developed for conducting medication reviews in older patients. The tool was then completed, over a three month period, for all patient's (n=64) admitted from a care setting, on a twenty-bedded acute care of the elderly ward. A care setting was defined as *'nursing homes, residential homes or any assisted living arrangement, for example, a fold'.*

Results

Patients took on average 11.1 medicines on admission. Almost 22% of admissions were due to an ADR while a further 23% of admissions were potentially due to an ADR. Ninety percent of patients had a PIM on admission resulting in 20% of the total medication being deemed potentially inappropriate. A moderate positive correlation was seen between the number of medicines taken and the number of PIM identified (Pearson product-moment r=0.4, p=0.003). There were 2.14 interventions made on average per patient. Diuretics, sedatives and opioids were the main groups of PIM that were intervened by stopping, holding temporarily or reducing. A strong positive relationship was seen between the number of potential ADRs and the number of PIMs identified (r=0.61, p<0.00001).

Conclusion

The MOT was time efficient, inexpensive and has the potential to yield significant improvements in prescribing appropriateness whilst minimising the risk of ADRs and associated morbidity. It could act as a simple, first-line, multidisciplinary inappropriate prescribing screening tool for any older patient in secondary care.

References

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Potentially inappropriate prescribing of proton pump inhibitors in elderly medical in-patients

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Introduction

Proton pump inhibitors (PPIs) are potent gastric acid suppressants, used in the treatment of a range of gastric disorders. In 2009, PPIs were found to be the 3rd most commonly prescribed therapeutic drug class in Ireland. Concerns were raised about potentially inappropriate prescribing of PPIs and the resultant cost implications. Further evidence suggests potential serious adverse effects associated with high dose, long-term treatment, including increased risk of fracture, Clostridium difficile infection, and hypomagnesaemia.

Aim/Objective

The aim of this study was to evaluate the levels of potentially inappropriate prescribing (PIP) of PPIs among medical inpatients in the Medicine of the Elderly Directorate (MedEl) in St.James's hospital.

Methods

A baseline audit was conducted. Inclusion criteria: MedEl patients > 65years old and > 8 week duration of stay. Exclusion criteria: non-MedEl patients, patients < 65years old, patient stay < 8weeks.

Results

The level of PIP in the study group was found to be 65%. Almost half, 44% (n=25) were prescribed PPIs for an inappropriate indication. A further 21% were prescribed an inappropriate dose (even though the indication was deemed appropriate).

Conclusion

The level of PIP of PPIs in MedEl inpatients is unacceptably high. This has not only major cost implications, but also places the patient at risk of developing serious adverse effects. Measures to be taken to reduce the incidence of PIP of PPIs in St.James's hospital include: education of prescribers and nursing staff about the risks of high dose therapy for treatment periods in excess of 8 weeks duration, regular medicines usage reviews by pharmacists and improving prescribing guidelines.

References

1. Cahir C et al. Proton pump inhibitors: Potential cost reductions by applying prescribing guidelines. BMC Health Services Research. 2012; 12:408.
2. Cahir C et al. Potentially inappropriate prescribing and cost outcomes for older people: a national population study. British Journal of Clinical Pharmacology. 2010; 69(5):543-552

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Consultant pharmacist case management of older people in intermediate care

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Introduction

In Dec 2011, the Compton Review 'Transforming Your Care' recommended better integration of hospital and community services for older people. The aim of this work was to develop, implement and evaluate a consultant pharmacist (CP) led case management pharmaceutical care service for older patients admitted to intermediate care (IC) and continued back into the community setting.

Method

Prior to project initiation (May 2012), a multidisciplinary process mapping event was held informing development of a new care pathway where the CP case managed patients (≥ 65 years) throughout their stay in IC and for at least 30 days post-discharge. On admission to IC the CP: reviewed appropriateness of drugs prescribed; implemented patient-specific pharmaceutical care plans; and recorded/graded clinical interventions[1]. The CP contacted the GP and/or community pharmacist on discharge with direct case management continuing via post-discharge telephone calls/home visits. Costs savings as a result of interventions which prevent medication errors/ ADEs were estimated by ScHARR[2] ; these figures were applied. Drugs stopped/started were costed using the NHS dictionary of medicines and devices (DM&D). Data collected was entered into SPSS v21 for analysis.

Results

All older patients (n=453, aged 82.8±7.1yrs) admitted from acute to IC care over a 12 month period (Jul '12 to Jun '13) were case managed. Three hundred and fifty-five patients had 3674 drugs individually assessed for medication appropriateness. Both individual and total drug MAI scores on admission to and discharge from IC reduced by a statistically significant figure (Wilcoxon signed rank test, $p<0.001$, n=355). The CP made 1122 clinical interventions with 84% being self-graded as Eadon ≥Grade 4 (grade 4 represents a significant intervention with resultant improvements in the standard of patient care). Application of the ScHARR model yielded potential savings of £63-144k pa. Annual drug cost savings were £68k. One third of patients received a post-discharge telephone call with 45.9% requiring ≥ 1 intervention.

Conclusion

CP case management resulted in drug cost savings, reduced post-discharge healthcare resource usage and safer seamless patient care across the acute/IC/primary care interface.

References

1. Eadon H. Assessing the quality of ward pharmacists' interventions. Int J Pharm Prac 1992; 1: 145-47.
2. Karnon J, McIntosh A, Dean J, Bath P, Hutchinson A, Oakley J, Thomas N, Pratt P, Freeman-Parry, Karsh B, Gandhi T, Tappenden P. Modelling the expected net benefits of interventions to reduce the burden of medication errors. J of Health Serv Res and Pol 2008; 13(2): 85-91.

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Oral presentations: **Antimicrobial stewardship**

Time: **11.45 am – 1.15 pm**

Location: **The Oak Room**

Chair: **Elaine Conyard**

Author	**Title**
Anne Smyth	Introduction of paediatric antimicrobial guidelines in the Western Health & Social Care Trust
Aiofe Fleming	A multidisciplinary qualitative study investigating the factors influencing antibiotic prescribing in long-term care facilities in Ireland
Diana Hogan-Murphy	Implementing antimicrobial stewardship programmes: not easy
Peter Beagon	Developing a live automated microbiology pharmacy surveillance system
E Ahern	Are we dosing gentamicin and vancomycin appropriately?
Aiofe Fleming	Antimicrobial stewardship activities in hospitals in Ireland and the United Kingdom hospitals: a comparison study of two national cross-sectional surveys

Introduction of paediatric antimicrobial guidelines in the Western HSC Trust

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Introduction

Antimicrobials have substantially decreased the threat of infectious diseases. However bacteria have become increasingly resistant to antimicrobials[1]. Prescribing antimicrobials judiciously is becoming universally accepted as a necessity[2]. The goal is to avoid the use of antimicrobials when no clear benefit exists[3].

Objective

Develop paediatric antimicrobial guidelines for use in the Western Health and Social Care Trust and perform an audit to determine adherence to the guidelines both before, assuming that the guidelines are best practice, and after their introduction.

Design

Review of paediatric in-patients treated for a bacterial infection to include the antimicrobial prescribed, dose, duration any pathogen isolated and any sensitivities documented. Formulate antimicrobial guidelines. Following guideline implementation perform an audit to monitor compliance to the guidelines. Assuming that the guidelines are now best practice perform an audit on the original data to assess if guideline introduction has improved compliance.138 in-patients treated for a bacterial infection in Children's Ward, South West Acute Hospital, Enniskillen were chosen.

Results

Primary outcome was to determine if introducing guidelines improved compliance. Secondary outcomes included the appropriate antimicrobial prescribed at the correct dose, duration and allergy status documented. 90% was the target set for compliance to the guidelines. The overall pre-guideline compliance result was 26% and post-guideline compliance was 57.8%. Neither reached the 90% target. The pre and post-guideline data was analysed at 95% confidence intervals (p=0.05) and shown to be significantly different at 0.06.The pre-guideline percentage of appropriate antimicrobials chosen was 45%, post guideline was 89.4%, dose prescribed pre-guideline was 45% post-guideline 89.4% and the duration was documented in either the drug chart or medical notes in 26% of patients pre-guideline and 56.2% post-guideline introduction. Allergy status was documented in 100% of the drug charts.

Conclusion

Introduction of paediatric antimicrobial guidelines significantly improved compliance however the target compliance of 90% was not reached.

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A multidisciplinary, qualitative study investigating the factors influencing antibiotic prescribing in long term care facilities in Ireland

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Introduction

Antibiotic prescribing in Long Term Care Facilities (LTCF) is often not in adherence to antibiotic prescribing guidelines. The Theoretical Domains Framework (TDF) has gained much attention as a framework to identify areas for behavioural change interventions in healthcare[1]. This study sought to examine the attitudes and opinions of antibiotic prescribing in LTCF by interviewing the health care professionals involved, and thus identify areas for future interventions.

Methods

Ethical approval was obtained from the Clinical Research Ethics Committee of the Cork Teaching Hospitals. Semi-structured interviews were conducted with health care professionals who work in the LTCF setting. A convenience sampling strategy was used with maximum variation to ensure sampling of male and female participants, of varying years of experience, from publicly, privately and voluntarily funded LTCF. Content analysis was conducted and the resulting themes were coded into the domains of the TDF in order to study the behavioural influences on antibiotic prescribing in LTCF. QSR International's NVivo 10 qualitative data analysis software was used to organise the data.

Results

Interviews were conducted with 9 community pharmacists, 14 nurses, 10 general practice doctors and 4 consultants/specialists. Antibiotic prescribing in LTCF is influenced by the Environmental context, the Social influences of nurses on doctors and lack of awareness of prescribing guidelines. In terms of Behavioural Regulation participants believed that antibiotic prescribing at their LTCF has improved recently, but most recommended the need to monitor antibiotic prescribing patterns.

Conclusion

Future antimicrobial stewardship strategies should provide resources to improve knowledge about appropriate antibiotic prescribing in complex LTCF patients. By considering the views and targeting the behaviours of health care professionals, the effectiveness of future interventions to improve antibiotic prescribing in LTCF would be greatly enhanced.

References

1. Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. Implementation Science 2012;7:37.

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Implementing antimicrobial stewardship programmes: not easy

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Background and Objective
To address antimicrobial resistant pathogens, antimicrobial stewardship programmes (ASPs) are being developed through a variety of structures and interventions. The success of these programmes depends upon their rate of adoption by doctors. Despite wide promulgation, however, ASPs have had limited effects on changing doctors' behaviour and clinical practices. The aim of this research was to explore the attitudes and beliefs of doctors on the various barriers and facilitators to implementing ASPs in acute appendicitis.

Setting and Method
Twenty-five semi-structured interviews were conducted with 10 consultant doctors, 8 registrars and 7 senior house officers involved in the management of acute appendicitis from the departments of surgery, paediatrics, emergency medicine, anaesthesia and microbiology in an acute 210-bedded general hospital in Ireland. As part of the piloting and validation exercise, a topic guide was tested for face and content validity by a consultant surgeon and a microbiologist and piloted with 2 doctors. Interviews were tape-recorded, transcribed verbatim and analysed using the framework method. To enhance the validity and reduce any bias of the findings, 10% of the transcripts were independently reviewed for emerging themes by the microbiologist. All data were anonymous, coded and securely stored. Informed consent was sought from all participants and ethical approval received.

Results
Three key themes emerged as barriers to successful implementation. Theme 1 identified doctors' lack of knowledge, experience and confidence in the use of ASPs. Theme 2 identified doctors' disagreement with ASPs due to a perceived lack of high-level evidence supporting local recommendations and ineffective communication between developers and users. Theme 3 identified external factors such as the presence of contradictory literature and a lack of doctors' time and resources in implementing ASPs. The use of a high level of evidence and the involvement of doctors in the development of ASPs emerged as key facilitators. Persuasive rather than restrictive interventions were perceived to have more of an impact.

Conclusions
There is a pressing need for qualitative studies that aim at understanding aspects that influence prescribing practices for optimal healthcare delivery and effective translation of evidence-based research into practice.

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Developing a Live Automated Microbiology Pharmacy Surveillance system

Beagon PG[1], Magee F[2], Fleming GF[1], Kearney P[1], Scott MG[1] [1]Pharmacy & Medicines Management Centre, Antrim Area Hospital. [2]DHSSPSNI

Overview

Healthcare associated infections (HCAIs) are the most serious threat to global healthcare. Following an outbreak of *Clostridium difficile* infection (CDI) in the Northern Health & Social Care Trust an independent review of Trust policies and procedures was conducted.

Action

As part of the response a multi-disciplinary team was established to develop software which would improve the Trust's management of HCAIs. The project board developed a project brief to define the broad system requirements, including real-time data-feeds from disparate existing healthcare databases and a commercial company was engaged to develop the software.

Benefits expected

1. Better monitoring of empirical antimicrobial policy, with improved adherence to policy;
2. Analysis of the relationship between local antimicrobial use and changing antimicrobial resistance patterns;
3. Local antimicrobial sensitivity/ resistance data informs local empirical antimicrobial guidelines;
4. Exception reports highlighting variances from antimicrobial policy

Results

A HCAI "dashboard" summarises strategic infection management information in a window containing six tiles. Antimicrobial usage-density, especially the use of restricted antibiotics, is monitored automatically Trust-wide by:

- individual antibiotic
- the associated risk of causing CDI (high/ medium/ low)
- cumulative usage density in defined-daily-dosage (DDD) per 100 bed-days.

All Consultant teams receive monthly feedback on their use of antimicrobials in terms of adherence to, and variance from, local empiric antimicrobial policy as well as the appropriateness of their prescribing. This promotes the use of narrow-spectrum, low-risk, antimicrobials and continuous learning, improving safety, quality, and efficacy.

Conclusion

This HCAI dashboard improves the surveillance and management of HCAIs Trust-wide. Phase 1 monitors antimicrobial consumption, promotes improved antimicrobial stewardship and monitors hand hygiene.

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Are we dosing gentamicin and vancomycin appropriately?

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Introduction

In recent years, the dosing of gentamicin and vancomycin has evolved to larger doses given less frequently of the former, and weight-based dosing at defined intervals of the latter[1,2]. In both instances, the regimen is adjusted for impaired renal function with consideration of the infection site, pathogen susceptibility and patient-specific factors[2,3].

Aim/Objective

To assess the dosing of gentamicin and vancomycin at St. James's Hospital (SJH), in particular appropriateness of; (1) the initial dose prescribed, (2) time to therapeutic concentration (vancomycin) and (3) the serum drug level concentrations.

Methodology

The study was observational and prospective in design. Inpatients on twelve wards, commenced on gentamicin or vancomycin therapy during the study period were included in the study. Each course of therapy was reviewed for appropriateness based on local guidelines of the initial dose prescribed, serum drug concentration results and the clinical management of serum drug concentrations outside the acceptable range.

Results

The initial dose prescribed of gentamicin was appropriate for 84.0% (21/25) of courses and serum trough concentrations were within the acceptable range in 94.1% (32/34) of serum samples. For courses of vancomycin, the initial dose prescribed was appropriate for 30.2% (13/43) of courses and serum trough concentrations were within the acceptable range in 50.0% (76/152) of serum samples. Non-consideration of renal impairment and patient weight accounted for inappropriate initial doses of vancomycin. Therapeutic target concentrations were attained in 74.4% (32/43) of courses within seven days of vancomycin treatment initiation. 11.6% (5/43) of courses did not become therapeutic at any stage throughout therapy.

Conclusion

While there is appropriate dosing of gentamicin at SJH, initial dosing and time to therapeutic concentration of vancomycin are sub-optimal. This issue is being addressed by a quality improvement plan by the hospital's Antimicrobial Stewardship Committee with planned re-audit.

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Antimicrobial stewardship activities in hospitals in Ireland and the United Kingdom hospitals: a comparison study of two national cross-sectional surveys

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Background
The aim of this study is to benchmark the profile and performance of Irish Antimicrobial Management Teams (AMTs) against UK AMTs in order to identify areas where Irish antimicrobial stewardship strategies may be improved.

Methods
A postal questionnaire was issued to the Antimicrobial Pharmacist or Pharmacist in charge at all Irish Hospitals (March-April 2012) and all UK National Health Service Hospitals (November 2011 – January 2012). Ethical approval was granted by the Clinical Research Ethics Committee of the Cork Teaching Hospitals and the Ethical Review Panel of the School of Pharmacy and Life Sciences, Robert Gordon University, Aberdeen, UK. The results of both surveys were compared using STATA Statistical software version 12.

Results
The response rates to the surveys were 73% (n = 51) in Ireland and 33% in the UK (n=273). In Ireland, 57% of respondents (29/51) reported the presence of an AMT compared to 82% in the UK (186/273) ($p<0.001$). Significantly more AMT in the UK setting have an Antimicrobial Pharmacist on the team (95% compared to 67%, $p<0.001$). In terms of the activities of the AMTs, a higher proportion of Irish respondents report measuring the volume of antibiotics prescribed (85.7% versus 71.6%, $p = 0.057$). A significantly higher proportion of UK respondents measure the appropriateness of antibiotic prescribing (75% versus 58%, $p = 0.033$).

Conclusion
This comparison study has found important differences between the Irish hospitals and UK NHS hospitals AMT profiles and activities. This may have implications on patient safety in Ireland if the standard of antibiotic prescribing is not being monitored and reviewed in all hospitals. In order to promote antimicrobial stewardship in Irish hospitals, Irish AMTs need to be supported to recruit and retain antimicrobial Pharmacists and to achieve higher rates of audit and feedback activities.

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Oral presentations: **Workforce development**

Time: **11.45 am – 1.15 pm**

Location: **The McGuiness/Plunkett Room**

Chair: **Glenda Fleming**

Author	**Title**
Heather Bell	Working together and learning from each other to develop an integrated medicines management programme for pharmacy technicians in Northern Ireland
Cicely Roche	Spotlight on moral reasoning: a blended learning approach to CPD that demonstrates measurable improvement in relevant competencies
Alice McCloskey	Investigation of pharmacists' attitudes towards how their degree developed the skills required to challenge a prescriber's decision
Sharon Haughey	Quantitative analysis of CPD portfolios
Eleanor Muir	A review of the technician reaccreditation programme in the aseptic compounding unit
Laura O'Loan	Re-engineering work-based training and support for patient-facing pharmacists in Northern Ireland

Working together and learning from each other to develop an integrated medicines management programme for pharmacy technicians in N. Ireland

[1]Bell HM, [1]Adair CG and [2]MMAP Steering group
[1]NICPLD, Queen's University Belfast and [2]NI Health and Social Care Hospital Trusts

Introduction

NICPLD has been involved in the delivery of accredited medicines management programmes for pharmacy technicians since 2005. The number of hospital pharmacy technicians engaging with these programmes at any one time is limited, however, the development of these key medicines management skills is essential to support on-going service development within secondary care. The aim of this piece of work was therefore to work collaboratively to develop a strategy for the future delivery of these programmes in a cost-effective, streamlined and flexible manner.

Method

Representatives from all Hospital Trusts and from the Regional Pharmacy Technician Group were invited to a programme review event to consider the current and future delivery of the programmes. Ellen Williams who leads the delivery of similar programmes in a region of England attended the event and provided insight into how the programmes are delivered elsewhere. During this event, group discussion identified the changes that were required to the current programmes in relation to the format of the programme, the delivery of the training and the paperwork associated with the programme.

Results

As a result of discussions at the review event, a summary paper was developed. The summary paper summarised the key issues raised and also outlined the future work required to develop an integrated medicines management accredited programme (MMAP) to meet the needs of the service and NICPLD. Trusts were asked to identify individuals to represent them on the MMAP Steering Group. NICPLD led the development of the programme and supporting resources and these were reviewed by the Steering group members. A meeting was recently held to finalise the programme and associated documentation and we will seek accreditation of the programme against the National Framework in January 2015.

Discussion

Collaboration between the education provider and representatives from the service from the beginning of this project ensured commitment to the development of an integrated medicines management programme. The collaborative approach allowed the open and honest discussion of the developing programme and collectively, we have developed a cost-effective, streamlined and flexible programme which ensures the development of the skills required for pharmacy technicians to support the delivery of a medicines management service within secondary care.

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Spotlight on Moral Reasoning: a blended learning approach to CPD that demonstrates measurable improvement in relevant competencies

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Background
Research indicates that higher levels of moral reasoning (MR) competencies increase the probability that practitioners will make decisions in the patient's 'best interests'. Professional ethics education incorporates the Four Component Model (FCM) of morality, namely moral sensitivity, reasoning, motivation, and implementation, as interactive elements in the development of a professional. MR is the component specifically considered in this study.

Aim
To investigate the impact of an educational intervention on the development of MR competencies, as measured by a well-validated psychometric measure known as the Defining Issues Test (DIT2), in Irish pharmacists that had practised in the community pharmacy setting for at least three years.

Method
The intervention was a 16 week blended learning programme that incorporated specifically adapted elements of the FCM approach to professional education. Adaptations included the use of a series of 5 newly developed pharmacy-specific ethical dilemmas. Participants were asked to generate appropriate and inappropriate choices and justifications through online group discussion and extensive peer review. A repeated-measures 'pre-post-intervention' design used a randomised, controlled, crossover design, in order to evaluate changes in the moral reasoning scores of community pharmacists in Ireland as measured by the DIT2.

Results
A short intervention impacts on the MR development of pharmacists as measured by the DIT2 and complementing the face-to-face elements with the online environment (blended approach) supports the development of relevant competencies.

Conclusions
A short blended learning educational intervention supports the development of MR competencies. Adapting the approach to accommodate delivery to a variety of healthcare professional contexts, and investigating the benefit, is the focus of future work.

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Investigation of pharmacists' attitudes towards how their degree developed the skills required to challenge a prescriber's decision

McCloskey A[1] and Brown J[1]
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Introduction

The evolving role of the pharmacist has highlighted the importance of communication with other members of the multi-disciplinary team. Pharmacists need to demonstrate a consistent level of clinical and drug expertise and to build a trusting relationship with prescribers in particular as it is this group of health care professionals (HCPs) whom they are most likely to challenge[1].

Aims

- Assess pharmacist attitudes to how their degree helped them to interact with other HCPs
- Learn how other HCPs developed their communication skills
- Provide and implement suggestions to improve confidence in communication skills

Method

A questionnaire was prepared, piloted and completed by pharmacists, medical and nursing staff in the Northern Health and Social Care Trust.

Results

Questionnaires were completed by 37 pharmacists, 11 nurses and 4 doctors. Twenty-seven pharmacists stated that they had experienced conflict with other HCPs with 23 respondents stating that they had never received communication skills training at university. The majority (96%) felt that their confidence in communicating with other HCPs had improved since they were newly qualified, attributing this to experience and increased clinical knowledge. A range of methods were suggested to increase confidence; work shadowing and mentoring, attendance at ward rounds and multi-disciplinary meetings, workshops and inter-professional learning.

Discussion

Post-graduate communication skills training may increase the confidence and experience of pharmacists to appropriately challenge prescribing decisions. Poor communication can arise from a lack of understanding of the role of other HCPs and many respondents felt that inter-professional learning (IPE) is beneficial. Methods suggested by all HCPs to increase confidence and improve communication skills were used to deliver an interactive session to junior pharmacists.

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Quantitative analysis of CPD portfolios

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Background

A continuing professional development (CPD) portfolio and evaluation system was adopted by the Pharmaceutical Society NI (PSNI) in 2006. In 2013 CPD was made a statutory requirement of registration with the PSNI and a set of Standards and a Framework was published[1]. Since 2006 over 1000 portfolios have been collated and evaluated by the PSNI, with each portfolio being awarded a percentage score.

Aim

The aim of this project is to determine if a link exists between the CPD portfolio score of pharmacists in Northern Ireland and their gender, age, number of cycles completed or number of hours completed. Analysis of this data will mean that additional support may be offered to certain groups of pharmacists and may also help to identify further areas of good practice for the PSNI CPD framework.

Method

Anonymised data from the portfolios of pharmacists submitted in 2006 and 2012 were analysed using SPSS Statistics (Version 21) to determine significant effects of age, gender, number of cycles submitted and number of hours completed on portfolio scores. The portfolio scores in 2006 and 2012 were also compared.

Results

Significant relationships were identified between portfolio scores and gender, year of birth, number of hours of CPD undertaken and the number of cycles recorded. For example, higher pass rates were recorded for portfolios from females in 2006 and 2012. High pass rates were recorded for those pharmacists completing between 4 and 8 cycles. There was also evidence to show the improvement of CPD portfolio scores between 2006 and 2012.

Discussion and conclusion

This study highlighted certain groups to which extra support could be offered, whilst additionally supporting current recommendations in terms of the numbers of cycles per portfolio. Previous studies have shown that females are supportive of the concept of CPD, which could have an impact on how they perform in the CPD assessment[2].

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A review of the technician reaccreditation programme in the aseptic compounding unit

Muir E, Treacy V, Collins A. Pharmacy Dept. St. James's Hospital, Dublin

Background

In the Aseptic Compounding Unit (ACU) we have a written training programme documenting all staff member's initial training[1]. In accordance with national guidelines for aseptic compounding, staff competency is assessed on an annual basis, through a reaccreditation programme[2,3]. A number of limitations were identified with the current programme e.g. time consuming process, some critical areas were not covered, and it was difficult to review the results to determine individual training requirements. A review of the reaccreditation programme was undertaken.

Aim

To review the current reaccreditation programme in order to identify its limitations and modify it to develop a more comprehensive, efficient process more sensitive to detection of technician error.

Methods

The tasks in the ACU were mapped and gaps identified. A more observational based approach to reaccreditation was developed. Checklists were created using our SOPs. Simulation tests were developed. The new programmed was piloted.

Analysis

The pilot demonstrated that the reaccreditation programme could be completed in one day. Checklists, observation and supported questioning detected non-compliance with SOPs e.g. incorrect cleaning of isolator transfer devices. Simulation tests and written questioning demonstrated that technicians detected critical errors e.g. incorrect drug on the tray; drug out of date.

Findings/Results and Recommendations

All production tasks are now in the ACU technician reaccreditation programme. The newly developed reaccreditation tools have made the programme more comprehensive and efficient. The observation-based approach and the simulation tests have strengthened the programme by providing information on the technician's ability to complete a task without error and to detect known errors. Completed annually, the reaccreditation programme now provides a higher level of quality assurance in production tasks.

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Re-engineering work-based training and support for patient-facing pharmacists in Northern Ireland

O'Loan LM
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Introduction

A recent review of Health and Social Care (HSC) in Northern Ireland[1] has identified a number of pressures within the current system which make it unsustainable. It has made recommendations for change to improve quality and patient outcomes and to ensure that the HSC budget is used to best effect. Those recommendations include focusing on preventing ill health and tackling health inequalities, and providing patient-centred care as close to home as practical. This will entail shifting resources from hospitals to enable investment in community HSC services. The review recognised the need to provide support for the HSC workforce in delivering the necessary change. This prompted the Northern Ireland Centre for Pharmacy Learning and Development (NICPLD) to review and re-engineer the work-based training and support it provides for patient-facing pharmacists in Northern Ireland.

Previous work-based training and support for patient-facing pharmacists

Previously, NICPLD provided a structured work-based training programme to support pharmacists working in the hospital sector only. The Hospital Vocational Training (VT) Programme was introduced in September 2008 and included four workplace rotations (dispensary, technical services, clinical / medicines management and clinical effectiveness). The Hospital VT Programme was reviewed and re-engineered into a broader Foundation Programme to support patient-facing pharmacists in all sectors of the pharmacy profession.

Re-engineered work-based training and support for patient-facing pharmacists

The Foundation Programme (FP) provides pharmacists with the opportunity to gain knowledge, skills and experience in three core patient-facing areas (dispensary services, medicines management and evidence-based practice) plus one additional optional area relevant to their area of practice (technical services (hospital) or public health (community / primary care)). The FP was introduced in September 2014, and provides structured work-based training and support for all pharmacists working in a patient-facing role in Northern Ireland, enabling them to deliver safe and effective pharmaceutical care to individual patients.

Discussion

The content of the FP and its educational approach, including the use of practice activities and OSCE assessments, will be discussed.

References

1. Compton J. Transforming Your Care: A Review of Health and Social Care in Northern Ireland. December 2011. Available at www.dhsspsni.gov.uk/index/tyc.htm (accessed 22 September 2014).

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Oral presentations: **Medicines management**

Time: **2.45 pm – 4.15 pm**

Location: **The Garden Room**

Chair: **Liz Hoctor**

Author	**Title**
Deirdre Holland	Discharge medication reconciliation - opportunity for multidisciplinary collaboration
Barry Keenan	Evaluation of a diabetes pharmacist prescribing project within the southwest acute hospital, Enniskillen
Susan Spillane	Recent pharmaceutical cost containment measures and effects on state-funded drug expenditure in the Republic of Ireland
Chris Blayney	Pharmacist independent prescriber acute/repeat prescribing pilot in primary care
Susan O'Dwyer	Use of a novel device to assess inhaler adherence in the primary care setting
Tamasine Grimes	Collaborative PharmAceutical Care at Tallaght hospital (PACT)

Discharge medication reconciliation - interdisciplinary collaboration in the provision of a pharmacist led service

Holland D. Pharmacy Dept., Naas General Hospital, Naas, Co. Kildare

Background

Medication reconciliation is a basic principle of good medicines management, which can contribute to medication safety initiatives[1]. Admission medication reconciliation is an area of intense research at Naas General Hospital (NGH) and has resulted in reorganisation of clinical pharmacy services[2,3]. Discharge medication reconciliation remains an area of concern for in-patients. This research sought to determine the potential for multidisciplinary collaboration in the provision of a discharge medication reconciliation service.

Method

Non-probability consecutive sampling was employed to identify 224 prescriptions for review over a six-week period. Data was collected using specifically designed data collection tools and was analysed using SPSS 18.0 software.

Outcome measures

To determine the number and nature of medication non-reconciliations at discharge, and the contribution of the non-consultant hospital doctor (NCHD) and clinical pharmacist to their resolution.

Results

Prescription non-reconciliation was identified for 62.5% of patients and 15.8% of individual medications. Communication non-reconciliation was identified for 92.0% of patients and 45.8% medications. Prescription non-reconciliation was fully resolved on 55.7% of prescriptions prior to discharge; 67.9% by NCHD, 26.9% by pharmacist, and 5.2% by the joint input of NCHD and pharmacist. All communication non-reconciliation was resolved prior to discharge; 97.1% by a pharmacist, and 2.9% by both NCHD and pharmacist.

Conclusion

The team based clinical pharmacy service delivery model previously established at NGH was crucial in effectuating a discharge medication reconciliation service. An evidence base is established for multidisciplinary collaboration in the provision of this service, with the potential to contribute positively to medication safety initiatives.

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3. Byrne, S. 2011. Exploring the contribution of a restructured clinical pharmacy service to pharmaceutical care at admission. M.Sc. Thesis. Trinity College Dublin.

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Evaluation of a diabetes pharmacist prescribing project within the south west acute hospital Enniskillen

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Introduction

In 2012 the HSCB in Northern Ireland made funding available to support pharmacist prescribing projects in local HSC Trusts. Within the Western HSCT this money was used to deliver a pharmacist prescribing initiative within both inpatient and outpatient diabetes services. This money funded 1 day per week in this role.

Methods

A pharmacist prescriber specialising in diabetes and cardiovascular medicine attended consultant led outpatient diabetes clinics targeting patients for medication review. Following discussion with the patient and diabetes consultant recommendations were cascaded to the patients GP for on-going management. The pharmacist also reviewed inpatients as part of routine ward based clinical pharmacy services.

Results

During the period January 2013-March 2014 the pharmacist attended 74 outpatient clinics reviewing 409 patient episodes and 105 inpatient episodes. Direct cost savings from medication reviews were estimated at £52,980 per year based on medication costs alone. For the financial year 2013/2014 this represented a £3.90 return on every £1 invested. Mean Hba1c reduced from 73 to 64 mmol/mol in targeted patients (n=80) $p<0.001$. Mean non HDL cholesterol also reduced from 3.25mmol/l to 2.82mmol/l in targeted patients (n=78) $p<0.001$.

Conclusion

This project demonstrates significant improvements in clinical outcomes in targeted patients as well as producing significant cost savings.

Correspondence

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Recent pharmaceutical cost containment measures and effects on state-funded drug expenditure in the Republic of Ireland.

Spillane S[1], O'Sullivan D[1], Clarke S[1], Geraghty N[2], Barry M[1]
[1]HSE Medicines Management Programme and [2]National Centre for Pharmacoeconomics.

Introduction

Significant state pharmaceutical budget cost containment was introduced in the Republic of Ireland in 2013. These include the commencement of the Health (Pricing and Supply of Medical Goods) Act 2013, which provided for the introduction of a system of generic substitution and reference pricing. This year also saw the establishment of the HSE multi-disciplinary Medicines Management Programme (MMP), which undertook the 'Preferred Drugs Initiative' to identify and promote a preferred therapeutic option within certain drug classes. We aimed to study state pharmaceutical expenditure prior to and following the introduction of these measures

Methods

This study focused on the two pharmaceutical classes with the highest state expenditure in 2012[1], namely HMG CoA reductase inhibitors (statins) and Proton Pump Inhibitors (PPIs), both of which have been subject to reference pricing and generic substitution, and selection of a 'preferred drug' as part of the MMP. Analyses were performed using HSE-Primary Care Reimbursement Services pharmacy claims data from the GMS and DPS schemes (years 2012-2014 inclusive). Monthly total expenditure and numbers of treated patients were calculated at class and individual drug-level for statins and PPIs.

Results

Total monthly expenditure on statins peaked in May 2012 at €10.8m and reduced to €4.4m by June 2014. The corresponding average expenditure per patient fell from €33 (May 2012) to €13 (June 2014). Total monthly expenditure on PPIs peaked in October 2012 at €9.0m and reduced to €4.1m by June 2014. The corresponding average PPI expenditure per patient fell from €26 (October 2012) to €11 (June 2014). MMP 'preferred drug' simvastatin represented the lowest expenditure per patient as of June 2014 while the 'preferred' PPI (lansoprazole) was on par with pantoprazole and rabeprazole. Trend analyses indicate changes in the relative numbers of patients receiving particular drugs within the statin and PPI classes since the introduction of the recent cost containment measures.

Conclusions

Significant savings have been achieved in the statins and PPI drug classes following the implementation of recent cost containment and cost-effective prescribing initiatives. Such measures are an opportunity to reduce expenditure without affecting patient care in the context of a strained healthcare budget.

References

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Correspondence

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Pharmacist independent prescriber (pip) acute/repeat prescribing pilot in primary care

Karen Briers, Pharmacist Independent Prescriber, Clifton Street Surgery, Belfast

Background

My experience as a PIP involves running a CVD clinic in primary care and medication reviews in nursing homes. To expand my prescribing skills I saw an opportunity to help GPs manage demand by managing acute prescription requests. In this GP practice patients phone the surgery daily and any request received before 12 noon is entered into a 'prescription clinic' on the clinical system. A designated GP then deals with these requests over a 2 hr period after morning surgery (approx. 70 requests per day). It was agreed with the HSCB and practice that I would run three (2.5 hr) morning clinics a week for a four month period.

Aims

- ensure patient requests for treatment of acute conditions are actioned and dealt with in a timely manner. This may involve leaving a prescription for the patient, giving advice, sign posting the patient to the community pharmacy minor ailments scheme or referring the patient to see the GP.
- ensure patient requests for repeat medications that need reauthorised are dealt with in a safe and timely manner. This may involve carrying out a medication review, ordering appropriate blood tests or asking the patient to attend the surgery for an annual chronic illness review.

Operational Aspects

Prior to commencing the pilot I met with and agreed protocols with the practice:

- how and which acute requests I would deal with
- process for reauthorising repeat requests
- local guidelines to be adhered to
- when to refer prescription requests or patients to the GP

Results

- 75% of requests dealt with by PIP (1,932 requests from 2,497 overall requests). 41% (803 of 1,932) of requests resulted in PIP generating an acute prescription. 54% (1,043 of 1,932) of requests resulted in repeat items being reauthorised. 5% (96 of 1,932) of requests either signposted to community pharmacy minor ailment scheme or given advice only
- 537 patients received medication review,150 blood or drug monitoring tests ordered and reviewed.
- approximately 75 hours of GP time freed up for patient care
- positively received by patients, GPs and administration staff in surgery.

Correspondence

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Use of a novel device to assess inhaler adherence in the primary care setting

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Introduction

Inhaled medications are commonly prescribed in the management of asthma and chronic obstructive pulmonary disease. Inhalers can be difficult to use, leading to technique errors[1,2] that may have both direct costs (*e.g.* medication waste) and indirect costs such as increased use of other healthcare resources as a consequence of poor symptom control[3]. The INCA (INhaler Compliance Assessment) system is a novel approach to recording, interpreting and reporting patterns of inhaler use over an extended period via a small device attached to the inhaler. Time-stamped recordings undergo automated acoustic analysis to yield reports of inhalation technique and timing.

Methods

The INCA pharmacy study is a prospective, randomised, parallel-group, multi-site study incorporating a cluster design that is designed to compare usual mode of care with personalised feedback on inhaler technique provided by the INCA system. As an initial measure, the inhalation patterns of a sample (n=40) of patients enrolled on the study were analysed and classified, both through application of a computerised algorithm and manually, in order to determine the inhaler use patterns prevalent in the study population prior to any study interventions.

Results

Only 27.5% of patients were found both to have good inhaler technique and to use their inhaler consistently on schedule. 35% of patients displayed both bad timing and bad technique, while the remainder had either bad technique (27.5%) or bad timing (10%). Technique errors included inadequate inspiratory force, exhaling into the mouthpiece before inspiration, and multiple inhalations.

Conclusions

The INCA device provides a unique opportunity to monitor patients' daily inhaler use. Errors in technique and timing were widespread within the study sample. Future investigations will focus on assessing the effect, if any, of providing personalised feedback on inhaler use to study participants.

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Collaborative PharmAceutical Care at Tallaght Hospital (PACT)

The PACT team, Tallaght Hospital, Dublin 24, Ireland

Background

Medication safety is a national priority, reflecting the fact that adverse drug events are the most frequent single adverse event type. We investigated the benefits of the PACT service versus standard ward-based clinical pharmacy in adult inpatients receiving acute medical care. This was adapted from the Integrated Medicines Management model from Northern Ireland[1]. Following this pilot, we established a team to lead an organisational change of pharmaceutical care.

Findings of the pilot investigation

PACT decreased the prevalence of any medication error at discharge (adjusted odds ratio 0.07 (95% CI 0.03 to 0.15)); number needed to treat (NNT) 3 (95% CI 2 to 3) and no PACT patient experienced a potentially severe error (NNT 20, 95% CI 10 to 142). This meant that for every 20 patients receiving PACT, a potentially severe medication error was prevented in one patient. In patients aged ≥65years (n=108), PACT improved the MAI score from preadmission to discharge ($p<0.05$; PACT median −1, IQR −3.75 to 0; standard care median +1, IQR −1 to +6). This meant that patients receiving the PACT model had a higher quality of prescribing[2].

Moving from a pilot programme to an organisational change

This pilot study informed the organisation wide roll-out of PACT, planned for Autumn 2014 through Spring 2015. This organisational change is supported by a project manager and implementation team, plus a research programme to ensure clinical governance.

Conclusions

PACT is a collaborative model of pharmaceutical care involving medication reconciliation and review, delivered by clinical pharmacists and physicians, at admission, during inpatient care and at discharge. It is protective against potentially severe medication errors and improves the quality of prescribing, both important to ensure patient safety. An organisational change is underway to implement the PACT across medical and surgical services in Tallaght Hospital.

PACT was a finalist in the HMI Leaders Award 2014.

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[2]Grimes T, Allen A, Deasy E et al. Collaborative pharmaceutical care in an Irish hospital: uncontrolled before-after study. BMJ Quality & Safety 2014;23(7):574-583.

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Oral presentations: **Leading practice**

Time: **2.45 pm – 4.15 pm**

Location: **The Oak Room**

Chair: **Catriona Bradley**

Author	**Title**
Angela Carrington	All Northern Ireland Medicines Kardex
Aidan Morris	Development and pilot of a patient suitability assessment pro forma and patient information leaflet for medication self-administration
Fidelma Magee	'Making it better through pharmacy in the community' - a five year strategy for Northern Ireland
Sinead McCool	Use of an appointment based model in Irish community pharmacies and its impact on patient adherence: the Simplify My Meds Experience
Raymond Anderson	Managing long-term conditions in the community pharmacy: proving the concept
Sinead Doyle	The safe introduction of novel oral anticoagulants (NOACs)

All Northern Ireland medicines kardex

Carrington A. (on behalf of the NI Kardex Working Group). Pharmacy Department, Belfast Health and Social Care Trust

Background

In 2006 the Northern Ireland (NI) Medicines Governance team developed an acute medicines Kardex template, which trusts adopted and modified to incorporate other additional safety features. These alterations mean that staff moving between trusts encounter different Kardexes with different layout and content, potentially contributing to prescription and administration errors.

Aims and objectives

To develop a NI adult care medicines Kardex, which eliminates the variation in Kardexes used across the regional and supports safe prescribing and administration.

Methodology

A regional multi-disciplinary Kardex Working Group was established to oversee the project. A proposed NI Kardex was developed following comparison of trusts' Kardexes with the Academy of Medical Royal Colleges 'Attributes of a satisfactory in-patient medication administration record'[1] and inclusion of tried and tested sections to improve prescribing and administration practices. The Kardex was consulted with trusts' employed medics, nurses and pharmacists and tested using either simulated examples or with real scenarios. Feedback was obtained using both paper and electronic methods to identify if the content and layout of each section was supported. The responses were analysed, changes agreed by the regional group and the revised Kardex produced.

Results

305 responses received; 143 doctors, 83 pharmacists and 58 nurses. 204 supported the proposed content and layout, 42 did not support it and 59 left the question blank.

Conclusion

The All NI Kardex will be launched January 2015. An eLearning training material package is also in development which will be used to train staff prior to the launch.

Reference

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Development and pilot of a patient suitability assessment pro forma and patient information leaflet for medication self-administration

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Abstract

Self-administration of medication is defined as "*the independent use of a medication by a patient/service-user in a manner that supports the management and administration of her/his own medications*".[1] Previous research in the hospital[2] has identified issues around patient and product suitability for self-administration and has suggested the need for standardisation of the self-administration process to improve compliance.

This change project applied the HSE Change Model[3] to develop a patient suitability assessment pro forma and patient information leaflet for self-administering patients. Feedback was gathered from key stakeholders involved in medication self-administration through a survey and focus groups and was used to develop these forms. The forms were piloted on patients self-administering inhalers and/or phosphate binders on the renal ward of the hospital. Data were collected on patient demographics and suitability, product suitability and storage, and compliance with the prescription chart before and after the implementation of the pilot and the results were compared.

All self-administering patients were assessed using the forms and deemed suitable during the post-implementation data collection. Product suitability increased from 55% to 100%. Compliance with the prescription and recording requirements also improved post-change – 30.1% to 86.1%. The positive results of the pilot provide the foundations for future development of a self-administration policy using the finalised forms.

References

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'Making it Better through Pharmacy in the Community' – A Five Year Strategy for Northern Ireland

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Background

In March 2014 The Department of Health Social Services and Public Safety launched a strategy titled 'Making it Better through Pharmacy in the Community'[1] setting the direction for pharmacy services in the community for the 5 years 2014-2019. The new Strategy refreshes the 2004 Making it Better Strategy[2] providing alignment with the overall policy direction for the transformation of health and social care in Northern Ireland[3], supporting care closer to home through access to pharmacy services which aim to support health and wellbeing throughout life.

The future path for Community Pharmacy

'Making it Better through Pharmacy in the Community' promotes the pharmacist's role in optimising the health outcomes and minimising harm through the safe and effective supply of medicines with provision of information, advice and services. It also promotes community pharmacies as neighbourhood resources helping to combat the public health challenges within their local populations. The strategy has four key themes, which consider how pharmacy can help people to:

1. gain better outcomes from medicines
2. live longer, healthier lives
3. safely avail of care closer to home
4. benefit from advances in treatment and technology.

The Strategy supports a future where pharmacists are integral members of the health and social care team using their clinical skills and working with primary and secondary care supporting safe, appropriate and effective medicines use throughout the patient journey. The strategy recognises pharmacists as advocates for public health and community pharmacies as frontline neighbourhood resources for improving health and wellbeing and reducing health inequalities. The Strategy identifies the need to underpin delivery of this new agenda with ICT, service development, commissioning, professional standards, workforce development, supportive policy and legislative change.

References

[1] DHSSPS Making it Better through Pharmacy in the Community, 2014-2019
[2] DHSSPS Making it Better – A Strategy for Pharmacy in the Community, 2004
[3] DHSSPS Transforming Your Care, 2011

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The use of an appointment based model in Irish community pharmacies and its impact on patient adherence: the Simplify My Meds Experience

Mc Cool S, Hoctor L and Logan P

Introduction

Research has shown that patients are poor at adhering to their prescribed medicines. Studies have demonstrated low adherence by patients is common and typical adherence rates for prescribed medicines are approximately 50%. This has major implications for both the patient and the healthcare system. Medication non-adherence may result in poorer health outcomes for the patient, with increased hospitalisations, premature death, and increased costs and medicines wastage to the health system. Non-adherence is estimated to cost EU governments 125 billion euro and contributes to the premature deaths of nearly 200,000 Europeans a year.

The Irish Pharmacy Union (IPU) agreed to develop a study of the *Simplify My Meds*(SMM) Appointment Based Model in the management of patient adherence in the Irish community pharmacy setting. Funding has kindly been provided through an educational grant from Pfizer Healthcare Ireland.

Methods

Over 40 Irish Community Pharmacies were recruited to take part in this study. They were provided with a range of resources including face to face training, a user manual and an online data collection module via IPU NET. IPU NET is an innovative, web-based application, designed to support pharmacists, both in the delivering and recording of services to patients. With the assistance of an educational grant from Pfizer Healthcare Ireland, an adherence module was developed on IPU NET. This removed the need for paper forms and enabled analysis of data recorded by participating pharmacists. Follow up was provided throughout the pilot.

Outcomes

Approximately 50% of the recruited pharmacies provided data via IPU NET. The study demonstrated that use of the SMM Programme aided in the identification of non-adherent patients, along with certain patient groups who would benefit from the SMM, such as colostomy and nursing home patients. Pharmacists felt the SMM Programme benefited their workplace in terms of better workflow, improved stock management and both patient and pharmacists interaction and satisfaction.

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Managing long-term conditions in the community pharmacy: proving the concept

Raymond Anderson[1] and Chris Blayney[2]. [1]Independent Pharmacist Prescriber and Community Pharmacist and [2]Pharmacist Prescribing Facilitator, Health and Social Care Board

Under "Transforming Your Care" A Review of Health and Social Care in Northern Ireland (NI) published in December 2011 the then Chief Executive of Health and Social Care Board (HSCB) John Compton set out the challenges of change and the rational for the need to change the way the health service in Northern Ireland is delivered. The review pointed the way to a future model of care which was more integrated in its approach. He stated very clearly that "professionals providing health and social care services would be required to work together in a much more integrated way to plan and deliver consistently high quality care for patients". It also stated that the community pharmacist would form part of the multidisciplinary approach to management of long term conditions (LTCs).

The expertise of the pharmacist is "medicines" and for a number of years pharmacist independent prescribers (PIPs) have been involved in holding prescribing clinics within GP practices for patients with LTCs in NI, involving patients with hypertension, asthma, COPD and warfarin monitoring.

This presentation looks at how a PIP working for a GP surgery in Portadown piloted an innovative service to deliver a Hypertension Review Clinic from a community pharmacy on a Saturday morning with full access to patient records using remote access. We will look at the operational process for running such clinics, the outcome measures and the satisfaction survey results.

These clinics have demonstrated a different way in which community pharmacy can work, engaging with GP colleagues in a more integrated fashion resulting in improving access to services and medicines for patients and proving pharmacists can effectively and safely manage patients with LTCs from community pharmacy . It does however require a change in thinking, as said in TYC "change is not an option". The only option is if it is planned or unplanned change. With the changes in demography and the prevalence of LTCs primary care needs to find new ways of working. At the conclusion of the presentation it will be clear the community pharmacy clinics have:

- increased the number of patients accessing hypertension services who had not done so in previous 9 months (increased access to services)
- demonstrated pharmacist independent prescribers can safely and effectively manage patients with LTCs from community pharmacy setting
- improved access to medicines (prescribing demonstrated)
- been positively received by patients, GPs and recognised on national level.

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The safe introduction of novel oral anticoagulants (NOACs)

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Southern Health and Social Care Trust (SHSCT)

Introduction

The anticoagulant team in the SHSCT consists of a consultant haematologist and a group of anticoagulant pharmacist prescribers. The team recognised that there were significant risks associated with the introduction of NOACs and so designed a project with the objective of ensuring that NOACs could be safely introduced to practice.

Method

The anticoagulant team planned a number of measures that would assist with the safe introduction and improved uptake of NOACs. After consultation with the emergency doctors at the Pharmacist-led DVT clinic in the emergency department (ED), first line treatment was changed from a low molecular weight heparin (LMWH) along with warfarin to Rivaroxaban. After one month patients were telephoned to determine if they had experienced any side effects of the new medication. In addition, inpatient prescribing of NOACs was audited over a six-month period.

Results

The benefit from the change in treatment to Rivaroxaban was felt immediately with a dramatic drop in the number of ED DVT attendances, from 276 from March to September 2012 to 32 from March to September 2013, as patients did not have to return to ED for daily injections until their INR was therapeutic. At one month, there were two reports of side effects from patients. One patient had recurrent nosebleeds and was changed to warfarin and a second experienced a metallic taste in his mouth but remained on Rivaroxaban. The inpatient audit showed that 37 patients were prescribed NOACs, with 3 patients receiving it who had a contraindication.

Conclusion

Within this initiative, the anticoagulant team has ensured that the patient has received the right care in the right place by changing the first line treatment of DVTs in ED to a NOAC. The inpatient audit showed that NOACs were prescribed appropriately in the majority of cases. Ensuring patients receive appropriate information and good communication between primary and secondary care is crucial - the audit showed that healthcare staff would benefit from more training in this area.

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Poster presentations

The Garden Room

Times: 11.15 am – 11.45 am & 2.00 pm – 2.45 pm

Evaluation of clinical pharmacy activity in Sligo Regional Hospital

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Introduction

Pharmacy intervention in the medication use process can occur in prescribing, dispensing and administration of medication. In this study, pharmacist interventions pertaining to prescribing and administration were examined. Interventions are described as any action that directly resulted in a change to patient management or therapy[1].

Aims and Objectives

To quantify weekly CP interventions.
To study the types of interventions made.
To assess whether intervention rates and types vary between wards.

Methodology

9 pharmacists collected data over 5 days on a variety of wards. Data recorded included the number of patients seen on at least one occasion, the number and type of intervention(s) made and advice given to healthcare professionals/patients. Interventions were retrospectively categorized on a standard data collection form.

Results

Of 406 inpatients reviewed by CPs, 648 interventions were made in 205 patients. The intervention rate varied among wards; in AAU/SSU, intervention was required in 85% of patients, 57% on medical wards, 43% on surgical wards and 14% on the paediatric ward. Interventions were broadly categorized as interventions in the following areas:

- medication reconciliation (n=267, 41%)
- medication initiated in hospital (n=159, 25%)
- antimicrobial prescriptions (n=53, 8.2%)
- oral anticoagulants (n=18, 2.8%)
- discharge prescriptions (n=29, 4.5%)
- other interventions (n=122, 18.8%).

Conclusion

This study shows CPs at ward level undertake many complex tasks to optimise patient safety. The high intervention rate in AAU/SSU indicates the risk of error at the admission interface. However, the rate of interventions in medications initiated in hospital indicates that medication reconciliation should not be the sole focus for CPs.

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The positive effect of sharing medication safety lessons

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Introduction

Medication errors are the leading cause of preventable harm with reports indicating an occurrence in 10% of all inpatients. A newsletter was developed and distributed quarterly to communicate medication safety messages across the multiple sites within the trust. A survey was undertaken after 1 year.

Objectives

1. Determine if staff are aware of the medication safety newsletter
2. Determine if change in practice occurred as a result of the newsletter

Method

A questionnaire was designed, piloted and distributed trust wide in paper and electronic format via trust wide email during July 2014.

Results

A total of 169 responses were received, (39 electronic), a response rate of 33% to the paper questionnaire. It was not possible to determine a response rate to the electronic questionnaire. 83% were aware of the trust newsletter. 74% of agreed or strongly agreed that the newsletter was relevant to their practice with 57% answering positively to 'has anything you have read influence your practice'. Examples in response included: '*I now write micrograms in full rather than mcg'; I now check patient weight when prescribing IV paracetamol;* 95% indicated that the content, length and detail of articles was 'just right'.

Discussion

The newsletter has been successful in achieving both objectives. It is hoped to undertake work to identify why not all respondents were prompted to change their practice. The Hawthorn effect should be considered when interpreting responses.

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A medicines management dietitian initiative to improve the safe and cost effective use of oral nutritional supplements across Northern Ireland

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Background

Malnutrition is a major public health issue which affects 29% of patients admitted to hospital in N.Ireland[1]. NICE has advised that substantial quality improvements and cost savings can be delivered if the NICE clinical guidelines CG 32: Nutrition support in adults was implemented[2]. It is recognised that there are substantial quality and efficiency gains to be achieved by focussing on the review of prescribed oral nutritional supplements (ONS). Consideration of methods used in parts of the UK indicates that targeted dietetic review will address this issue[3]. Each of the five Local Commissioning Groups in Northern Ireland has invested in a Medicines Management Dietetic Team which is jointly led by the Health and Social Care Board and the Public Health Agency. The aim of this initiative is to utilise dietitian skills supported by prescribing support assistants to improve the appropriate use of ONS in primary care to deliver enhanced outcomes for patients, services and efficiencies for the NHS.

Methodology

The team identifies patients within GP practices who are prescribed ONS. The dietitian assesses patients in clinic or home setting. Individual care plan including MUST score is provided detailing target weights, dietary goals and recommendations for the appropriate use of ONS. Primary care colleagues are educated by the team about malnutrition and appropriate prescribing using the '7 steps' model. The team has also created a paperless electronic system for clinical record keeping and generation of outcomes to maximise use of resources.

Outcomes

Inappropriate prescriptions for ONS were stopped in 58% of cases and amendments made to the prescription in a further 20% of cases. 92% of patients reported comparable or improved wellbeing following intervention with the dietitian. 100% of GPs surveyed reported they were 'satisfied' that their knowledge of 'food first' and screening for malnutrition using MUST had improved as a result of this initiative. 100% of GPs surveyed reported the initiative had a positive impact on their prescribing of ONS. Annual savings of £955,410 demonstrated to date across 72 practices with a population of 383,181.

References

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Recording medicine related admissions to hospital

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Aim

To improve the appropriate recording of medicine related admissions to hospital in the Northern Health and Social Care Trust (NHSCT).

Introduction

Medicines are an important cause of hospital admission with up to 11.2% of unplanned admissions known to be medicine related[1,2]. However, the current level of coding of these admissions is low[3]. A new DHSSPS indicator of performance was included for Trusts to establish a reliable baseline[3]. Measures to increase awareness and improve the quality of information recorded are needed, together with a role for clinical pharmacists[3].

Method

The number of non-elective medicine related admissions to NHSCT during 2013 was identified using medicine related ICD-10 codes compiled for this study. Data were analysed by ICD-10 chapter, age and medicine class. Information and terminology necessary to facilitate recording and coding were agreed together with the pharmacist role. Education and awareness resources were developed and sessions were delivered to medical and pharmacy staff. Recording by pharmacists was also introduced. The number of medicine related admissions between February and May 2014 was identified and compared to the same period during 2013 to determine if the intervention improved recording. Pharmacist views were identified via a focus group.

Results

1671 (3.74%) admissions were coded as medicine related during 2013 (1191 aged <65, 480 ≥65). T chapter codes were the most frequent and CNS medicines were the most common medicine class. 523 admissions were coded as medicine related from February to May 2013 (3.58%) increasing to 578 (3.89%) during the same period in 2014. The focus group revealed that pharmacists viewed the recording of medicine related admissions as a role for medical staff with pharmacists assisting.

Conclusion

Whilst the number of non-elective medicine related admissions to NHSCT increased following the intervention, the findings support the need for additional measures to further facilitate appropriate recording, including the progression of proposed changes to electronic systems and further development of the pharmacist role.

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An audit of once daily gentamicin prescribing and associated acute kidney injury (AKI) in the Southern Health and Social Care Trust

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Introduction

According to NICE guidelines AKI occurs in 13–18% of hospital admissions.[1] To address this, the Trust introduced an AKI protocol in February 2012. As gentamicin is associated with nephrotoxicity in 10–20% of therapeutic regimes, renal function and antibiotic levels need to be carefully monitored.[2-3] Gentamicin doses are prepared from 40mg and 80mg vials, so multiple vials are required, therefore a dose banding system may simplify this, reducing errors. The aim of the audit is to determine the appropriateness of once daily gentamicin prescribing and monitoring, incidence of acute kidney injury (AKI), compliance with AKI risk assessment tool and whether a dose banding system would improve gentamicin prescribing in the Southern Trust.

Methods

Data were collected from July 2013 to December 2013 for patients who received once daily gentamicin (n=116) to evaluate prescribing quality according to Trust guidelines and AKI incidence. Data collected included the patient's age, weight, height, gentamicin sampling times and results, creatinine levels, estimated glomerular filtration rate and documentation of AKI risk factors. A one-way ANOVA and Pearson correlation was used for analysis.

Key findings

The audit revealed 4 (3.4%) patients received the correct dose; 54 (46.6%) were obese, only 9 (16.7%) were dosed according to the ideal body weight (IBW) calculation. In 77 (79.4%) patients levels were taken appropriately. In total 2 (1.7%) patients experienced nephrotoxicity; compliance with the AKI risk assessment was 27% (n=24). No statistically significant difference in dosing accuracy was found on application of a dose banding system versus current prescribing ($p > 0.05$; Pearson Correlation 0.62). Statistical comparison of dose banding to doses that should have been prescribed increased the Pearson correlation to 0.96 indicating a trend towards significance.

Conclusions

Gentamicin requires patient-specific dosing and monitoring; important errors with this have been identified. Documentation on the supplementary chart could be optimized. Introducing a dose banding system may be beneficial improving accuracy of dosing if doses are prescribed in line with the guidelines.

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A qualitative study of community pharmacists' awareness of and involvement with intermediate care facilities in Northern Ireland

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Background

Intermediate care (IC) describes a range of services targeted at older people, aimed at preventing unnecessary hospitalisation, promoting faster recovery from illness and maximising independence. The introduction of IC has created a new interface between primary and secondary care. Older people are vulnerable to medication-related problems when transitioning between care settings due to patient and system-associated factors. The transfer of patients to primary care from IC has previously raised medicines management concerns.[1]The aim of this study was to explore community pharmacists' (CPs) awareness of IC services and to investigate their views of and attitudes towards medicines management aspects of such services, including the transfer of medication information.

Method

Ethical approval was granted by the School of Pharmacy Ethics Committee, QUB. Semi-structured interviews were conducted with purposively sampled CPs who were asked to describe their involvement with IC services and their views on the communication of patients' medication information when patients transition between healthcare settings. The interviews were recorded, transcribed verbatim and transferred to NVivo®, where they were analysed using a constant comparative approach.

Results

Interviews were conducted with 16 CPs in Northern Ireland. Three themes were identified: 'left out of the loop', 'chasing up' and 'closing the loop'. CPs felt that they were often 'left out of the loop' in their involvement with IC. CPs reported spending a considerable amount of time resolving issues relating to patients' medication information following healthcare interface transitions, an activity referred to as 'chasing up'. CPs viewed themselves as ideally placed to facilitate medicines management across the healthcare interface ('closing the loop'), but several barriers to potential service development were identified.

Conclusion

CPs have limited involvement with IC. There is a need for improvement in communication of patients' medication information in order to ensure a seamless transfer across healthcare interfaces. The provision of services by CPs to IC patients and service providers is one recommendation to improve continuity of care across such healthcare interfaces.

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Implementation of NPSA alert: safer lithium therapy
Northern Ireland - Regional Health & Social Care Board and Secondary Care Trusts

Background

New NI regional guidance was developed to support the requirements of the 'NPSA Alert: Safer Lithium Therapy' ie ensure:

- Patients are monitored according to NICE guidance
- Systems are in place to communicate test results and manage interactions
- Patients receive ongoing education and a record book to track relevant tests
- Monitoring is checked to ensure it is safe to issue/dispense prescriptions,

The guidance consists of lithium:

- Care Flowchart outlining three possible pathways patients may follow.
- Secondary Care Initiation and Monitoring Care Pathway
- Shared-Care Guideline outlining monitoring in line with NICE

A group, consisting of representatives from primary and secondary care, was convened to implement the guidance and address any issues arising.

Aim

Prior to implementation of the new guidance it was often unclear to prescribers (GPs) if patients on lithium were being monitored appropriately. The aim of the guidance is to improve systems for review and monitoring of patients on lithium.

Implementation

This required action by GPs and Trust Mental Health Teams in three main areas:

1. Following agreement between the Mental Health Team and GP, patients were allocated to one of the three review and monitoring care pathways.
2. GP practices and Trusts reconciled their lithium registers indicating each patient's allocated care pathway. Systems were then put in place to ensure patients were reviewed and monitored according to this pathway, monitoring occurred in line with the 'Secondary Care Initiation and Monitoring Care Pathway'/'Shared-Care Guideline' and monitoring results were communicated to GPs/Trusts accordingly.
3. NPSA Lithium Therapy Information Packs were provided to Trusts and GP practices with guidance on responsibilities for issuing to patients.

Follow-up and Outcomes

In March 2013, three months following the launch of the Regional Guidance, a Self-Assessment completed by over 100 GP practices indicated that:

- 50% of practices had allocated a Care Pathway to their patients on lithium
- 40% of practices had protocols in place for monitoring and education of patients on lithium. For 50% of practices, this was 'work-in-progress'.

A further self-assessment is planned for October 2014.

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Pharmacist independent prescribing – primary care diabetes clinics

Anne Marie Groom, Pharmacist Independent Prescriber, Health & Social Care Board.

Background

As a PIP working within a GP surgery I have experience holding clinics for patients with a variety of Long Term Conditions (LTCs) such as hypertension, pain management, CVD and depression. My experience also includes conducting medication reviews for nursing home residents many of whom have multiple LTCs.

Aim

To develop my competence so that I am able to safely and effectively manage patients with Type 1 and Type 2 diabetes.

Training

To facilitate the development of my competence I completed the following training:

- Prescribing Studies Diploma Module on Managing Diabetes with Keele University
- NICPLD Online and Advanced Clinical Practice Courses - Managing Diabetes
- *Attendance at diabetic clinics in primary care run by a GP with Special Interest in Diabetes, Secondary Care Consultants, Podiatrist and Dietitian

Implementation

I met with the GP partners, practice manager and nurse practitioner in the practice and agreed arrangements for inviting patients to my weekly diabetic clinic and the appropriate management/follow up of these patients.

Follow-up and Outcomes

During the first six months of my weekly clinics* (3.5 hours per clinic) some of the key outcomes included:

- 116 patients were reviewed (total 170 appointments including follow ups)
- 88 new medications were started and 71 dose adjustments made (including glycaemic, blood pressure and lipid management)
- 84 complete medication reviews were carried out including 80 medications stopped.
- 4 new diagnoses of hypertension were made using ABPM
- 14 patients were referred to GP/secondary care including one patient with previously unidentified myocardial infarction
- 1 patient was successfully supported to quit smoking
- 3 new diagnoses and treatment of depression using PHQ9 tool
- £16.5k annual savings due to costs of medication interventions

I have also recently worked with the practice to update their Diabetes Management Protocol and QUB to update the Diabetes Management Diploma Material.

*Funded by the HSCB Independent Pharmacist Prescribing scheme.

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Assessment of the use of Glucagon-like peptide-1 (GLP1) analogues for the treatment of hyperglycaemia in patients with type 2 diabetes: NICE time for an update?

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Introduction Method Results and Conclusions

This audit assessed the effectiveness of these agents by measuring changes in weight and glycaemic control within the local diabetic population. Local prescribing data was compared with current NICE guidance[1] and the Association of British Clinical Diabetologists (ABCD) national audit[2].

113 Patients on Exenatide, Byetta®, Bydureon®, Liraglutide, Victoza® were identified from searching the diamond diabetes database. Data was collected on HbA1c, weight and concurrent diabetes medications.

92 % and 76% met the initiation criteria for one marker of poor metabolic control (poor Hba1c or high BMI) [1]; only 68% met both[1]. On review only 46% of patients met both criteria for continuation of treatment[1]. 57% of prescribing of GLP1 agonists was in circumstances in which there is no NICE guidance. Improvements in weight and glycaemic control were statistically significant at 12 month follow up. Local prescribing patterns matched those reported in a national audit of these agents[2].

Compliance with NICE guidance is poor, but is comparable with the ABCD national audit[2]. The prescribing of insulin and GLP1 agonist combinations has only recently gained licensing status but has been common practice. There is an urgent need for NICE to expand guidance on the use of these agents.

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People with intellectual disabilities and the medication use process. Grounded Theory analysis of information from interviews with six people

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Introduction

Gaining insight into patient knowledge, understanding, views and perceptions of medication use are paramount to the practice of pharmacy. There is a need to determine if people with intellectual disabilities can provide information about the quality of the medication use process in their vulnerable population.

Methods

The researcher a practising pharmacist received Ethics approval from the university Ethics Committee .The project was facilitated by a national organisation for people with intellectual disabilities. Six people who consented to participate, were interviewed using a semi-structured tool. The interviews were transcribed and analysed using Grounded Theory. Literature review was undertaken post research to avoid contaminating emerging theory.

Results

Grounded Theory focuses on explaining the persons main issue of concern and how the person continually resolves this concern. Themes identified included - complexity of process, autonomy, health literacy, information provision, diabetes distress.

Conclusion

People with intellectual disabilities are ‘experts’ in the complex medication use process in their population. Their voice should be heard to ensure their safety. Pharmacists and others have a responsibility to make appropriate information on medication readily available to people with intellectual disabilities and their carers.

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Audit of a tailored Parkinson's disease (PD) medications administration record

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Introduction

PD patients need to get their medications at the prescribed time, especially at advanced stages of the disease. Failure to do so can affect their quality of life, and may result in deterioration of the patient, possibly lengthening their stay in hospital. Several incidents where patients had suffered from not getting their medications on time had been reported within the organisation.

Objective

To determine whether the time of administration of PD medications in PD patients admitted to SVUH, improved after implementation of a PD medications administration record.

Results

No statistically significant difference was found between timely administration of PD medication before and after implementation of the PDMAR. However, the clinical team that patients were admitted under, and the time of the day that medications were due at, have been observed to have the strongest effect on timely administration of PD medications. Other influential variable was the fact that the medications were due at nursing staff breaks.

Discussion

Some studies suggest focusing education in particular target areas (i.e. surgical wards, the Emergency Department, hospital pharmacists) as possibly the most effective strategy to improve timely administration of PD medications in hospitalised patients.

Conclusion

The PDMAR nearly showed a statistically significant difference between PD medication given within the right time before and after its implementation in SVUH. Other strategies, such as formulation of guidelines and education of healthcare professionals, plus the introduction of a self-medication policy, would be recommended.

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We push, pump and drip-drop, but what are our patients getting? Observation of intravenous medication preparation and administration practices

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Objectives

- To determine if medications for intravenous (IV) administration are prepared and administered in accordance with hospital guidelines
- To determine if patients are receiving the full prescribed dose of medication

Results

- Medication preparation (n=105) and administration (n=66) via the IV route was observed for a convenience sample of adult medical/surgical in-patients.
- Administration by slow IV injection (40%), gravity infusion (42%) and infusion pump (18%) was observed.
- IV drug preparation guidelines were referred to in just under half of observations.
- A different reconstitution fluid, diluent or volume of fluid was used to those indicated in the guidelines in 21% of observations.
- An incorrect dose was prepared on 3 occasions but each was identified by the checking nurse and the correct dose subsequently prepared and administered.
- In 58% of observed administrations were outside the recommended rates, including 46% of slow IV injections administered >100% faster and 29% of gravity infusions > 50% slower than the rate recommended in hospital guidelines.
- Medication remained in the giving set and/or infusion bag at the end of the infusion (gravity or infusion pump) and was discarded, resulting in less than 95% of the intended dose being infused in 95% of observations.

Conclusion

41% of IV drug preparation and administration was in accordance with guidelines. Flushing the IV giving set, not just the cannula, is needed to ensure adequate drug delivery. Staff training is required to overcome rapid IV injection practices.

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Quality Improvement Plan to determine the number of medication errors made whilst dispensing and introduce methods to reduce them

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Background

The quality improvement (QI) project took place in the dispensary of the pharmacy department at Altnagelvin Hospital in Derry, Northern Ireland between December 2012 and March 2013. Approximately 3500 items are dispensed per week in the pharmacy. Pharmacists and pharmacy technicians were involved in the project.

The aim was to reduce dispensing medication errors by 75% by March 2013 in Altnagelvin hospital pharmacy.

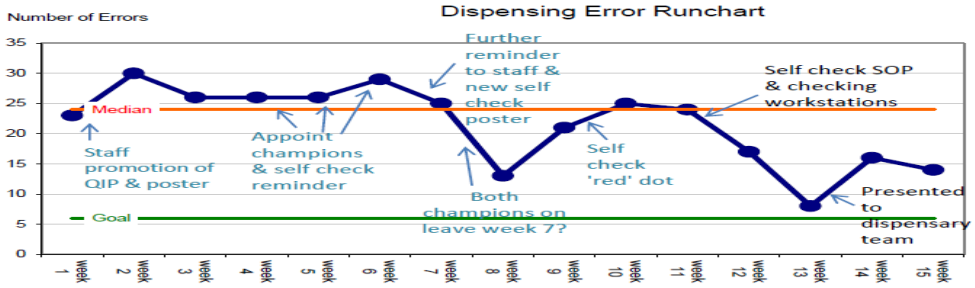
Assessment and Analysis

The IHI improvement methodology tool was used for each step of the project. An initial baseline of the number of errors recorded was determined from week 1 in December 2012. The QI project identified errors that took place at the labelling and dispensing steps of the process. Causes were recorded on the reporting forms and discussed with staff who made the error. Following the baseline all staff who work in the dispensary were informed that a quality improvement plan would be taking place over the next 4 months. Throughout the project weekly updates were discussed at the dispensary team meetings. A run chart was displayed in the dispensary and updated weekly.

Strategy for change

Tests of change were introduced approximately every two weeks and these were based on the types of error recorded but also ideas generated by the pharmacy team following weekly meetings. A change would be communicated at the staff meeting at 9am on a Monday morning. Each test of change would be analysed to see if it resulted in a reduction in errors. A run chart displayed in the dispensary was updated weekly to inform staff of improvements that took place.

Results



Improvement Methodology is an effective tool to demonstrate how tests of change can improve processes. Despite not meeting our target of 75% reduction in errors, the rate did fall from approximately 0.7% error rate to 0.4%. This is currently lower than the European dispensing error rate in hospitals: 1.6 - 2.1%. (European Medicines Agency 1/3/13).

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Bridging the gap - implementation of a successful medicines management system in Cavan General Hospital

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Background and Objective
The current medicines management system at ward level is inefficient, wasteful and unsafe. The aim of this project was to improve medicines management and patient safety by introducing a pharmacy top up service to the wards and to analyse nursing/pharmacy time and cost savings involved with this initiative.

Setting and Method
A pilot pharmacy top up service commenced on a 32 bedded medical ward in a general hospital in Ireland in February 2013 with one additional WTE pharmacy staff with the plan to roll out the service throughout the hospital. In November 2013 an audit was carried out to analyse the time spent by pharmacy staff dispensing medication to wards with and without the pharmacy top up service. A review of the service was conducted with input from nursing and pharmacy staff. Several suggestions were identified and changes implemented. The modified pharmacy top up service was then implemented on another medical ward in December 2013. A re-audit on both wards was carried out in January 2014. The cost of medication waste returned by wards and reused by pharmacy was also analysed for both wards as well as nursing time spent on a medication administration ward round pre and post implementation of the pharmacy top up service.

Results
Pharmacy staff spent 65% more time per week dispensing/issuing medication to a ward with the top up service compared to similar sized medical wards without the service (725 minutes/week v 430 minutes/week). Several changes were identified and implemented. These changes significantly reduced pharmacy time to 425 minutes/week. Introduction of the modified pharmacy top up service to the second medical ward did not significantly increase pharmacy time. Pharmacy staff found that implementation of the service to all areas of the hospital would save between €375,000-€675,000/year. Nursing staff estimated that 970 nursing hours/ward could be saved per year from introduction of pharmacy top up and use of medication cabinets at the bedside

Conclusions
The pharmacy top up service was implemented on a third medical ward in January 2014 and an additional medical ward in June 2014. Implementation of this service hospital wide may require additional pharmacy resources. Savings from a patient safety viewpoint as well as the reduction of medication on wards and the reuse of medication returned to pharmacy would far exceed the cost of the additional pharmacy staff required.

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Improving patient safety - implementation of a pharmacy top up service in a general hospital in Ireland

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Background and Objective

The current medicines management system at ward level is inefficient, wasteful and unsafe. Risks to patient safety include medication errors, missed doses, and inefficient use of staff time which could be better utilised for patient care. The aim of this project was to improve medicines management and patient safety by introducing a pharmacy top up service to the wards and to analyse nursing/pharmacy time and cost savings involved with this initiative.

Setting and Method

A pilot pharmacy top up service commenced on a 32 bedded medical ward in a general hospital in Ireland in February 2013 with one additional WTE pharmacy staff with the plan to roll out the service throughout the hospital. The pharmacy top up service was perceived as time consuming for the Pharmacy Department and without further additional staff could not be rolled out to further areas. In November 2013 an audit was carried out to analyse the time that Pharmacy staff spent dispensing/issuing medication to wards with the pharmacy top up service and wards without the service. A review of the service was conducted with input from nursing and pharmacy staff. Several suggestions were identified and changes implemented. The modified pharmacy top up service was then implemented on another medical ward in December 2013. A re-audit on both wards was carried out in January 2014. The cost of medication waste returned by wards and reused by pharmacy was also analysed for both wards as well as nursing time spent on a medication administration ward round pre and post implementation of the pharmacy top up service.

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Conclusions

The pharmacy top up service was implemented on a third medical ward in January 2014 and an additional medical ward in June 2014. Implementation of this service hospital wide may require additional pharmacy resources. Savings from a patient safety viewpoint as well as the reduction of medication on wards and the reuse of medication returned to pharmacy would far exceed the cost of the additional pharmacy staff required.

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Do hospital pharmacists counsel on medications?

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Background

The Royal Pharmaceutical Society describe Pharmacists as 'Medicines Experts' who, as a core function of their role, safeguard a patient's health by equipping them with the appropriate knowledge to safely and effectively manage their own medication[1]. The benefits of medication counselling include; reduced hospital readmissions, fewer adverse drug reactions and improved medication adherence[2].

Aim

To investigate factors affecting pharmacists' ability to provide medication counselling to in-patients in Northern Ireland.

Method

One hundred and twenty five ward based pharmacists employed across 4 Trusts in Northern Ireland were invited to complete a pre-piloted questionnaire. Ethical approval was deemed unnecessary by the Clinical Governance committee. The final questionnaire consisted of 4 sections with a total of 25 questions to determine which factors influence pharmacists' ability to counsel patients. Data was analysed and the results were reported as descriptive statistics.

Results

The response rate was 36% (n=45). Medication counselling was not ranked as a high priority task; medication history and reconciliation were ranked first with high-risk medication counselling fourth and low-risk counselling sixth out of 8 tasks. Respondents were more likely to counsel immediately prior to discharge (97%) than at any other point in the patient stay. Respondents were more likely to counsel on a newly initiated medication. Only 57% of respondents believed that they had a good understanding of how cultural factors may influence patient health beliefs. Patient factors including; age and patient diagnosis influenced respondents' perceived difficulty in counselling. Respondents believed an Standard Operating Procedure (SOP) would not be beneficial for medication counselling but may be useful in specific situations for example where there is a language barrier.

Discussion and conclusion

A number of barriers to the provision of appropriate mediation counselling have been identified. Awareness and support regarding cultural health beliefs would be welcomed by pharmacy staff. A counselling SOP was believed to be too restrictive for everyday use and should be reserved for specific situations.

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Prepared to prescribe? What do undergraduate pharmacists think…

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Background

Prescribing is one of the most common tasks expected of new doctors and increasingly a wider group of healthcare professionals, including pharmacists. It is a multifaceted activity which requires clinical knowledge as well as knowledge of medicines as well as sound judgement and skill[1]. Preparing undergraduate medical students to prescribe is acknowledged as one of the greatest challenges faced by Medical Schools and as the pharmacy profession are developing as prescribers, (9% of the register in NI), we sought to explore whether the QUB MPharm was supporting future prescribers sufficiently and to identify areas for improvement.

Aim

To determine the students' perceived levels of preparedness in relation to their own ability to prescribe medication.

Method

All final year (fourth year) undergraduate pharmacy students (n=134) were invited to complete a pre-piloted, ethically approved, self-administered questionnaire via email. It consisted of 10 sections with a total of 49 questions which examined student perceptions on their preparedness for prescribing.

Results

Fifty questionnaires were completed, giving a response rate of 37%. Most students (90%) believed themselves capable of writing a safe and legally valid prescription however, when asked how confident they felt about prescribing 18.9% were 'concerned' 35.9% were 'confident' with the majority (45.2%) were neutral. Students' confidence in their knowledge of medicines (90.5%) was higher than their confidence in diagnosis (58.5%). There were significant ($p<0.05$) gender differences; male students displayed more confidence in their ability to identify adverse drug reactions (100%) than female students (72.5%).

Discussion and conclusion

This study revealed some areas within the MPharm where additional support is required, particularly in role definition (with regard to diagnosis) and calculations. Overall, respondents believed they understood their role in the prescribing process and that they had received comprehensive training in therapeutics which contrasts with medical students perceptions.

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Improving medicines management for Parkinson's patients in hospital

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Introduction

Parkinson's disease (PD) is a chronic disease that causes characteristic motor symptoms, including tremor, rigidity and bradykinesia. To maintain control of their condition patients often require multiple doses of a range of different drugs throughout the day, taken according to a precise schedule. When patients with PD are admitted to hospital, this schedule often falls outside timing of ward rounds, resulting in an increased risk of missed doses[1,2]. Parkinson's UK recently launched the "Get It On Time Campaign", which aims to ensure that all PD patients admitted to hospital will "get their medication on time – every time"[3] thereby preventing deterioration in their condition and increase in distressing motor symptoms. The objective of this work was to deliver an educational session on PD treatment to both pharmacists and doctors, and assess its impact on their knowledge and understanding of timely PD treatment.

Method

An educational presentation was delivered to both pharmacists (n=12) and doctors (n=38) at Altnagelvin Hospital. Questionnaires were distributed before and after the presentation to assess PD drug knowledge and establish whether there was a change in perception of the importance of prompt administration of PD treatment.

Results

Following the presentation, 100% of the doctors and pharmacists stated their PD knowledge increased. There was a significant increase in both HCPs' views on the importance of PD patients receiving their medication on time ($p < 0.0001$). Before the intervention none of the doctors agreed that PD patients should receive priority treatment; this increased to 84% following the presentation. Pharmacists' opinions on their role in relation to discussing drug administration times increased from 33% to 99% agreeing or strongly agreeing this was part of their role. Both groups also agreed that patients should be encouraged to bring their own medication to hospital.

Conclusion

Results indicated the intervention was successful in increasing doctors' and pharmacists' PD knowledge and the importance they place on ensuring patients receive timely treatment. Further work is required in delivering training to a larger group of healthcare professionals ensuring awareness is embedded in practice.

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Are the appropriate staff group performing serum sampling for therapeutic drug monitoring of gentamicin and vancomycin?

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Introduction

Dose optimisation of gentamicin and vancomycin, utilising Therapeutic Drug Monitoring (TDM) has been shown to decrease toxicity and improve outcome and is standard practice in many institutions[1]. There is evidence that the practice of drug monitoring is beset with problems including inappropriate serum level requests and incorrect timing of serum sampling[2-4]. To our knowledge however, there are no published studies on the category of healthcare professional best placed to perform TDM of antimicrobials such as gentamicin and vancomycin.

Aim/Objective

The study aimed to audit the process of TDM of gentamicin and vancomycin at St. James's Hospital, in particular the appropriateness of; (1) timing of serum sampling and (2) timing of serum sampling by staff group.

Methodology

The study was observational and prospective in design. Twelve ward areas were selected to include a distribution of all three staff groups currently performing serum sampling (phlebotomy, nursing and medical staff) and patients commenced on gentamicin or vancomycin therapy during the study period comprised the study population. Serum drug levels were reviewed for appropriateness of timing based on local guidelines, and the staff group involved in taking the level was noted. A chi-squared test was used to test for significance between staff groups. A p value < 0.05 was considered statistically significant.

Results

For courses of gentamicin, the timing of sampling was appropriate for 76.5% (26/34) of samples. For courses of vancomycin, the timing of sampling was appropriate for 57.9% (88/152) of samples. Serum samples taken by nursing or medical staff were significantly ($p < 0.05$) more accurately timed than those taken by phlebotomists.

Conclusion

Based on the results of this audit, it is clear that nursing staff are best placed to perform dose-dependent or time-dependent serum sampling. A quality improvement plan addressing accuracy of sample timing through process review and re-engineering is in place with planned re-audit.

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Are we dosing gentamicin and vancomycin appropriately?

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Introduction

In recent years, the dosing of gentamicin and vancomycin has evolved to larger doses given less frequently of the former, and weight-based dosing at defined intervals of the latter[1,2]. In both instances, the regimen is adjusted for impaired renal function with consideration of the infection site, pathogen susceptibility and patient-specific factors[2,3].

Aim/Objective

To assess the dosing of gentamicin and vancomycin at St. James's Hospital (SJH), in particular appropriateness of; (1) the initial dose prescribed, (2) time to therapeutic concentration (vancomycin) and (3) the serum drug level concentrations.

Methodology

The study was observational and prospective in design. Inpatients on twelve wards, commenced on gentamicin or vancomycin therapy during the study period were included in the study. Each course of therapy was reviewed for appropriateness based on local guidelines of the initial dose prescribed, serum drug concentration results and the clinical management of serum drug concentrations outside the acceptable range.

Results

The initial dose prescribed of gentamicin was appropriate for 84.0% (21/25) of courses and serum trough concentrations were within the acceptable range in 94.1% (32/34) of serum samples. For courses of vancomycin, the initial dose prescribed was appropriate for 30.2% (13/43) of courses and serum trough concentrations were within the acceptable range in 50.0% (76/152) of serum samples. Non-consideration of renal impairment and patient weight accounted for inappropriate initial doses of vancomycin. Therapeutic target concentrations were attained in 74.4% (32/43) of courses within seven days of vancomycin treatment initiation. 11.6% (5/43) of courses did not become therapeutic at any stage throughout therapy.

Conclusion

While there is appropriate dosing of gentamicin at SJH, initial dosing and time to therapeutic concentration of vancomycin are sub-optimal. This issue is being addressed by a quality improvement plan by the hospital's Antimicrobial Stewardship Committee with planned re-audit.

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Reducing omitted medicines in hospital

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Introduction: Omitted and delayed medicines have been identified as causing serious harm and death for some critical medicines and conditions[1]. Analysis of 2012 audit data indicated South Eastern Trust had a higher rate of omitted doses (including critical medicines) compared to other NI HSC Trusts. Multidisciplinary collaboration resulted in a number of strategies being introduced to reduce the rate of omitted doses. A re-audit in 2014 indicated a significant reduction in all omitted doses compared to 2012.

Method: Omitted doses were audited in 2012 and 2014 using the regional audit tool. Data was collect from 40 wards on all three main hospital sites within South Eastern Trust.

Strategies employed to reduce omitted doses included :

- Dissemination of 2012 audit results Trust-wide
- Introduction of a nursing 'key performance indicator' for omitted doses
- Review of ward stock holdings using LEAN methodology
- Review of the distribution and availablility of critical medicines out of hours
- Medicines finder facility
- Education of staff on appropriate prescribing and recording of omitted doses

Results:

	2012	**2014**
Percentage of prescribed doses omitted	19.5%	14.8%
Percentage of prescribed doses omitted classed as critical medicines	2.8%	1.3%
Percentage of prescribed doses omitted with no reason recorded (blank space on the the kardex)	2.8%	1.3%
Percentage of prescribed doses not given to 'drug unavailable'	1.4%	2.1%

Discussion/Conclusion: Improvement has been noted in 2014 compared to 2012. The overall rate of omitted doses has reduced significantly and the rate of critical medicines omitted has reduced by over 50%. Of note is the increase in doses not given due to 'drug unavailable' Further work is needed to roll out the LEAN methodology used to maximize ward stock-holdings. Future work includes continuing to highlight the importance of eliminating missed doses to staff, review of the nursing key performance indicator, and involvement in the NHS England medicines safety thermometer tool.

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Using treatment protocols in the verification of oral anticancer medicine prescriptions

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Introduction: The use of Oral Anticancer Medicines (OAM) is increasing and this has introduced a number of challenges to the provision of safe and effective cancer care (1,2). A lack of information at the time of dispensing has been identified as a barrier to the safe provision of OAM (1). Access to cancer treatment protocols at the time of pharmacist dispensing is advocated by numerous professional bodies to ensure the safe supply of OAM(1,3,4).

Aim/Objective: To compare the number of OAM prescriptions that could be verified and safely dispensed with and without access to the treatment protocol, and to assess the use of these protocols by non specialist pharmacists.

Methodology: One hundred OAM prescriptions were retrospectively reviewed to assess the barriers to verification with and without the treatment protocol. An electronic questionnaire was also distributed to 493 Irish pharmacists. This questionnaire asked respondents to verify an OAM prescription with and without access to the treatment protocol and to comment on their experience and opinions.

Results: When using standard reference sources, the pharmacist has sufficient information to verify 7% (n=7) of OAM prescriptions reviewed. Facilitating access to the treatment protocol at the time of dispensing increased the number of prescriptions which could be verified to 16% (n=16) ($p = <0.01$). Lack of access to patient information, such as body surface area and failure to communicate deliberate deviations from standard doses prevented the verification of most OAM prescriptions (n=84). In the questionnaire, the response rate was 6.4% (n=32). Pharmacists reported that the protocols were a valuable source of information and reported they would like access to them for all OAM prescriptions in the future.

Conclusion: Facilitating access to the treatment protocol at the time of dispensing of OAM increases the number of prescriptions that can be verified and safely dispensed. However, implementing this measure alone is insufficient to address the safety concerns associated with the dispensing of OAM prescriptions by non-specialist pharmacists.

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Prevalence of potentially inappropriate medicines and potential prescribing omissions over time in cohort of a community-dwelling older people

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Introduction
Older people are particularly vulnerable to inappropriate prescribing and resulting adverse effects. This study aims to compare the prevalence of potentially inappropriate medicines (PIMs) and potential prescribing omissions (PPOs) using several screening tools in an Irish community-dwelling older cohort, to assess if the prevalence changes over time and to determine factors associated with any change.

Methods
This is a prospective cohort study of participants aged ≥65 years in The Irish Longitudinal Study on Ageing (TILDA) with linked pharmacy claims data (n=2,051). Prevalence of PIMs and PPOs was measured during two time periods: in the year preceding participants' TILDA baseline interviews and in the year preceding their follow-up interviews using the Screening Tool for Older Persons' Prescriptions (STOPP), Beers' criteria (2012), Assessing Care of Vulnerable Elders (ACOVE) indicators and the Screening Tool to Alert doctors to Right Treatment (START). Generalised estimating equations were used to determine factors associated with change in prevalence over time.

Results
Depending on screening tool used, between 19.8% (ACOVE indicators) and 52.7% (STOPP) of participants received a PIM at baseline and PPO prevalence ranged from 38.2% (START) to 44.8% (ACOVE indicators), while 36.7% of participants had both a PIM and PPO. Common criteria were aspirin for primary prevention (19.6%) and omission of calcium/vitamin D in osteoporosis (14.7%). Prevalence of PIMs and PPOs increased at follow-up and this was associated with changing of prescribed medicines and chronic conditions, increasing age and female sex.

Conclusions
Sub-optimal prescribing is common in older patients. Prevalence may increase as patients get older, receive more medicines or develop more illnesses. This underlining the importance of ongoing medication review and the application of such screening tools by pharmacists as well as prescribers may help to optimise pharmaceutical care of older people.

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Development of an electronic medicines reconciliation programme

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Introduction

Lack of communication may be responsible for up to 50% of medication errors and 20% of adverse drug events in hospital [1]. To help prevent these problems, it is recommended that hospitals undertake a process of medicines reconciliation, which is "the process of creating and maintaining the most accurate list possible of all medications a patient is taking — including drug name, dosage, frequency, and route — and using that list to guide therapy"[1,2]. Current systems for medicines reconciliation are paper based which have disadvantages eg details may be recorded in different formats, transcribing errors may occur , long term storage of paper records can be problematic & access to paper records can be difficult, particularly if patients move within healthcare settings

Aim

To develop an electronic system for medicines reconciliation

Method

Following a number of iterations of the paper system, the optimal format to gather the required information electronically was agreed. In addition, integration was established with Patient Centre allowing an immediate discharge summary to be produced which includes an accurate reconciled medication list. This discharge information permits clear and accurate communication to primary care professionals and provides them with a fully reconciled medicines list in a timely manner. This system also links to the electronic pharmacist clinical intervention system (EPICS) allowing automatic recording of pharmacist activity.

Results

Following a pilot of the new system (using PDSA cycles to resolve any issues) a final system was produced and is now in use across NHSCT. The information now received at discharge by primary care is accurate in relation to medicines, taking account of all modifications, together with reasons, that occurred during the hospital stay. Future developments include roll out of the system across NI including full electronic uptake into the GP system and ultimately into the Community Pharmacy systems to give a fully integrated cohesive system for medicines management.

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Empathetic ability of pharmacy students

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Introduction

Empathy may improve patient satisfaction, contribute to optimal clinical outcomes and prevent possible harm that can result from unsuccessful communication.[1] Empathy is an essential part of professional competence and an important attribute of professionalism[2] and is therefore a skill which must first be fostered during initial training. This study sought to investigate whether factors such as gender, pharmacy year, part-time employment and health status affected empathetic ability.

Method

Following ethical approval and piloting**,** all undergraduate pharmacy students enrolled in the degree programme at Queen's University Belfast were invited via email to complete an electronic questionnaire consisting of the validated Jefferson Scale of Empathy-Healthcare Professional Students instrument (n=20 questions)[3] and non-identifiable demographic questions (n=4 questions). Kruskall-Wallis and Mann-Whitney U were used for comparisons of empathy scores; higher scores represented a greater degree of empathy.

Results

A response rate of 60.1% (318/529) was obtained**.** The mean empathy score was 106.19 (possible score range was 20-140). The mean score for females (106.71) was slightly higher than that for males (104.96) although there was no significant difference between genders ($p=0.211$). There was a significant difference ($p<0.001$) between pharmacy years with empathy scores being greatest at higher levels of the course. There were no significant differences in empathy for respondents who had a part-time job, a chronic condition, or took regular medication in comparison to those respondents who did not ($p=0.118$, $p=0.880$, $p=0.456$, respectively).

Conclusion

A reasonable level of empathy was found among the undergraduate pharmacy students, however this could be further enhanced by using targeted education strategies with a particular focus at the lower levels of the degree. Qualitative research could be conducted to further explore personal health status and empathetic ability.

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Optimising access to medicines safety resources: development of a Northern Ireland medicines governance website

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Introduction

Northern Ireland has two Medicines Governance teams providing a risk management function for the use of medicines in the primary and secondary care sectors. Working in isolation poses a greater risk for patients if different arrangements for medicines safety exist within the two care settings and the teams work collaboratively on regional projects. One of the barriers to promoting the safer use of medicines and to share the learning from incidents with staff in both sectors was that there was no central access point to the medicines safety resources developed by the teams for use in N.I. Online access to the resources was split across eight different healthcare websites and many of these were restricted to internal staff use.

Aim

The aim of the project was optimise access to N.I. medicines safety resources by developing a medicines governance website.

Actions

Two pharmacists were trained to develop & manage the website by an IT officer. The structure, graphics and content of the website were agreed by the teams and the site was designed in desktop and mobile format. Primary care, secondary care and joint resources were added to the website which 'went live' in March 2014.

Results

A Google analytics report was used to review website use 6 months after launch. There were 1771 users who accessed the website directly plus an unknown number who accessed the site from links in correspondence or from existing HSC websites. The majority of website users were from N.I. (76%), with other users in England, Scotland, Ireland, Germany, USA, Canada, India, Portugal & Qatar. The most frequently downloaded documents included information on controlled drugs (>1000 hits) warfarin guidance, newsletters for shared learning & patient information on the use of the insulin passport.

Conclusion

The new website provides a focal point for medicines safety resources in N.I. Access is simple and open to all internet users including patients. Analysis indicates that there is already a significant level of website use. The most frequently downloaded documents promote the safe use of high risk medicines e.g. opioids, warfarin & insulin. Work continues to develop and promote the website.

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Ethanol content of chemotherapy infusions

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Introduction

Ethanol is used as a co-solvent in the manufacture of many medicines. If given in sufficient quantities, patients can experience systemic effects of ethanol. The recommended weekly number of units of alcohol for adults is 14 units for females and 21 units for males. These are based on the UK unit size of 8g ethanol per unit. A HSE report concluded that the standard unit of alcohol in Ireland contained 10g of ethanol.

Method

The ethanol content of all chemotherapy infusions compounded in the Aseptic Compounding Unit of SVUH was researched using product SPCs and chemotherapy protocols to estimate a usual dose.

Results

Infusions were classified into those with less than 100mg ethanol per dose, 100 – 3g ethanol per dose and greater than 3g ethanol per dose. Infusions of gemcitabine, paclitaxel, docetaxel and carmustine may contain more than 3g of ethanol per dose, depending on the patient's body surface area. Patient alert cards are available from the manufacturers of gemcitabine warning patients that the ethanol content of the infusion may affect their ability to drive or operate machinery. Similar cards are not available from the manufacturers of the other medicines.

Discussion

Education sessions are under development, to facilitate nursing staff in the oncology day ward to educate patients about the potential alcohol content of certain chemotherapy infusions and the potential adverse effects this may have.

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Quantifying and characterizing prescribing error on admission and during admission to an acute hospital.

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Introduction: Prescribing errors are common and affect patient safety across the hospital system. The EQUIP study in the UK reported an overall prescribing error rate of 8.9%[1] in hospital in-patients. Irish data on prescribing error rate has not previously been reported.

Methods: The rates of prescription error on the in-patient chart post-admission, in new in-patient prescriptions and on rewritten drug charts were recorded by clinical pharmacists on a daily basis. The error rates were calculated by dividing the number of errors identified (numerator) by the number of medications reviewed (denominator) and expressing as a percentage. For a week in April 2013, all clinical pharmacists recorded the characteristics of each error identified (stage, potential severity, error type and drug type, based on the EQUIP study categories[1]). A validation panel of two clinicians and two pharmacists independently assigned a potential severity rating to each prescribing error.

Results: *Error rate* – Errors were recorded for a mean of 22.6% of admission prescriptions in adult medical/surgical patients, 18.2% in psychiatry patients and 11.1% in paediatric patients. Mean in-patient prescribing error rates of 7.7% (adult medical/surgical), 3.2% (psychiatry) and 0.8% (paediatrics) were recorded. Mean prescribing error rates on rewritten drug charts of 3.5% (adult) and 3.3% (psychiatry) were recorded. Changes in error rate are tracked over time. *Error types* - Omission and wrong dose were the most common categories, accounting for 89% of admission prescribing errors and 57.4% of in-patient prescribing errors. *Drug class* – The most frequent drug class errors on admission were central nervous system medicines at 32.4% and 29% of inpatient prescribing errors involved cardiovascular medicines. *Potential severity* - Clinical pharmacists characterised 60.9% of prescribing errors on admission and 66.4% on new in-patient prescriptions as serious or significant. The validation panel characterised 69.5% on admission and 78.4% as serious or significant.

Conclusion: Prescribing errors are common and pose a risk to patient safety, with the majority of errors rated as having the potential to cause significant patient harm. This study demonstrates the positive impact the pharmacist can have by identifying prescribing errors through medicines reconciliation and ongoing drug chart review during an inpatient stay. A minimally resource-intensive method of tracking prescribing error rates over time is presented. This measure may have potential to be used as an indicator of progress in improving prescribing practices.

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Review of controlled drugs prescribing by general dental practitioners in Northern Ireland

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The Controlled Drugs (Supervision of Management and Use) Regulations (Northern Ireland) 2009[1] states that organisations and Independent Hospitals were each required to appoint an Accountable Officer (AO) to be responsible for the management of CDs and related governance issues in their organisation. One of the roles of the AO for the Health and Social Care Board was to be accountable for the monitoring of all aspects of the use and management of controlled drugs by all healthcare professionals who it employs or with whom it contracts. In order to fulfil this regulation a system for the monitoring of controlled drugs prescribed by General Dental Practitioners (GDPs) in Northern Ireland was established in 2012 through collaborative working between the HSCB Medicines Governance Adviser and Regional lead for General Dental Services and Governance.

A monitoring Standard Operating Procedure (SOP) was developed to enable dental advisers to monitor Schedule 2 and 3 Controlled Drugs. Processes were put in place to manage issues identified during monitoring and to report to the AO as per legislation.

During the period April to September 2012, 571 prescriptions were reviewed, 107 prescriptions were identified for follow up, and 102 were investigated using standard letters of inquiry. Five cases required individual letters of investigation and in 3 instances clinical records of patients were called to verify the appropriateness of the prescribing.

Additional outcomes included the integration of training on appropriate CD prescribing as part of regional training on dental prescribing.

Newsletters highlighting relevant issues around CD prescribing were produced and issued to all GDPs.

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Improving the appropriateness of prescribing in older patients: a systematic review and meta-analysis of pharmacists' interventions in secondary care settings.

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Introduction

Older patients are at a much greater risk of potentially inappropriate prescribing (PIP) than the general population as a consequence of polypharmacy[1]. PIP has been found to increase the risk of adverse drug events (ADEs). Such ADEs can potentially lead to increased morbidity, mortality and health resource utilisation[2]. Reduction of PIP is even more critical in persons with dementia who have a greater susceptibility to the deleterious effects of potentially inappropriate medications[3].

Methods

A comprehensive electronic search of the literature was conducted using twelve electronic databases from inception up to and including June 2014. Inclusion criteria were controlled trials of interventions involving pharmacists conducted in secondary care settings, in which an objective of the study was the reduction of PIP in patients 65 years or older or patients with dementia, using a validated PIP tool as an outcome measure.

Results

A total of 1,752 records were found after duplications were removed. After two stages of review, five trials were included. One trial was excluded from quantitative analysis as it was deemed to be at a high risk of bias. No study was found which dealt with dementia patients specifically in this context. Quantitative analysis using random-effects inverse variance methods found there was a statistically significant difference in the mean in favour of the intervention when the summated medication appropriateness index (MAI) data were analysed at discharge (n=4, mean difference = -5.27, 95% CI: -8.44, -2.11, I^2 = 93%). A key component of all included studies was multidisciplinary teamwork.

Conclusion

Pharmacists can improve the appropriateness of prescribing in older inpatients when they work as part of a team. More research is required into the effect of pharmacists' interventions in reducing PIP in persons with dementia.

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An evaluation of the clinical and economic impact of procedural packs in secondary care

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High Impact Interventions (HII) are based on compliance to key specific steps carried out for particular procedures and when performed in sequence help reduce the risk of infection (1). The lack of correct equipment prior to a procedure has been shown to reduce compliance to HII care bundles (1). Bespoke procedure packs promote adherence to the recommended procedural method, by ensuring the availability of all essential apparatuses (3). When combined with training and familiarity of the pack, it allows the practitioner to concentrate on technical aspects of the procedure while utilizing all equipment in the step by step manner in which the pack unfolds. In conjunction with procedural packs and training, feedback of error rates aim to highlight the need for continued compliance with HII's.

The aim of the study is to assess the impact of two procedural packs, blood culture sampling and peripheral vascular catheter (PVC) packs, as they are introduced to clinical areas within total Antrim Area Hospital (AAH).

For PVC adverse event rates an audit tool was designed to monitor performance indicators and relevant particulars pertaining to the patient and practitioner, to include clinical adverse events (phlebitis, infiltration, extravasation, infection) and non-clinical adverse events (dislodgement, leaking). Baseline PVC data was collected over 24 weeks on surgical wards. Data was collected from paperwork associated with initiation and monitoring of PVCs and patient notes. Blood culture contamination data was collected from total AAH adult population to include relevant particulars pertaining to the patient, practitioner and blood culture specimen result. Data was collected on all positive blood culture results including true positive and contaminated results, with information drawn from blood culture specimen request forms, laboratory computer systems and microbiology paperwork.

Baseline PVC data showed an average of 57 completed PVCs recorded per week, however on average 13% of PVCs inserted required removal due to newly diagnosed clinical adverse events, with a further 24% removed due to dislodgement or leaking. The blood culture study was able to monitor the total BC contamination rate for the hospital and through details of the sample particulars identify the specific wards which show high incidence of procedural noncompliance. The PVC data shows there is an under reported incidence of adverse events affecting up to 37% of PVC's inserted weekly, with the blood culture study being able to highlight contamination hotspots for further investigation and training.

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The impact of standardising referrals by pharmacy technicians

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Introduction

Interventions by pharmacists have been shown to reduce the occurrence of preventable medication errors by 78%[1]. As the turnaround of patients has increased clinical pharmacy activity has been concentrated at the admission and discharge phases of the patient journey. This has reduced the number of interventions at the inpatient stage. Pharmacy technicians however screen medication charts on a daily basis in order to supply medication for patient bedside lockers.

Aim

To increase the number of patients benefitting from an intervention by clinical pharmacists during the inpatient stage of their stay.

Method

Intervention data by pharmacists following referral from technicians was collected for a one week period in January 2013. A standardised list of referral issues was then developed by a team of senior pharmacists, using information from local and national documents. This list was trialled for three months as a run in to further data collection. A further week of intervention data was then collected in May 2013.

Results

Interventions recorded by pharmacists during the inpatient stage of the patient journey increased by 27%. The number of patients who benefitted from these interventions increased by 25%. Using an economic model for cost-effectiveness of interventions[2] it was shown that for every £1 invested in pharmacy technicians there was a potential £4 return by preventing adverse drug events.

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Binders and mealtimes - do the two worlds collide?

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Introduction

Phosphate binders are an integral part of many haemodialysis patients' medication regime. In order to achieve the desired therapeutic effect, binders must be taken with food. Numerous studies have investigated the issues surrounding non-adherence of binder therapy amongst outpatients , , . There is, however, an absence of information in the literature, regarding correct phosphate binder ingestion in the inpatient setting. For the purposes of this audit, a phosphate binder taken "with a meal" was defined as a being ingested in the timeframe 15 minutes before to 15 minutes after commencement of a meal.

Aim

To examine the timing of ingestion of phosphate binders by renal inpatients in relation to ingestion of their meal.

Methodology

Phosphate binder doses were included in this audit if they were prescribed for administration in renal inpatients and those patients were in a position to ingest same on the ward. Data was collected by prescription chart review and peri-mealtime observation.

Results

55 phosphate binder doses were observed in 13 renal inpatients, on 7 different wards between March and May 2014. There were 7/55 (12.7%) doses ingested with a meal. The majority of binders (78%) had not been given to patients by the end of the observation period (15 minutes after meal commenced). The instruction to administer with meals was specified on the prescription for 39 (71%) doses observed.

Conclusion

The timing of phosphate binder administration in our renal inpatients is suboptimal. There is the risk that mistimed binder administration as an inpatient may undermine patient binder counselling. Strategies are required to improve the administration of phosphate binders with meals in our hospital.

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An audit of pharmacist-prepared discharge letters in Antrim hospital, Northern Ireland

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Background

Pharmacists who have completed the Non-medical prescribing course or who have completed the Trust training to prepare discharge letters are able to prepare Immediate Discharge Summaries (IDS) Part 2. As part of the Trust policy on pharmacist prepared discharge letters, an audit should be completed every 2 years to ensure the pharmacists are working within the Standard Operating Procedure (SOP). The Guidelines and Audit implementation Network (GAIN) Guidelines on Regional Immediate Discharge Documentation for patients being discharged from Secondary into Primary Care[1] were published in June 2011 and contain essential information required by GPs on the discharge letter. Pharmacist prepared discharge letters will be audited against pre-determined standards to ensure they contain all the necessary information required to comply with the Trust SOP and GAIN guidelines.

Methods

A senior clinical pharmacist completed a pre-designed data collection form on a random selection of 60 IDS prepared by 16 of clinical pharmacists on medical wards. The clinical pharmacists were not aware of the audit taking place. The medical notes containing the medicine kardex, medicines reconciliation form and IDS were reviewed and laboratory results were checked on the computer. This was validated by another senior clinical pharmacist from another hospital who independently completed the same data collection form on a sample of 14 of the 60 patients.

Results

Sixty-nine per cent of the audit standards were met. Significant drug interactions were seen in 20% of patients, duplication of therapy in 6.7% of patients and drug/disease incompatibilities in11.7% of patients. All pharmacists are working within the SOP or NMP treatment plan.

Discussion and conclusions

Areas for improvement include product standardisation, monitoring requirements and reasons for discontinuation of medicines Pharmacist prepared IDS Part 2 ensures that medicines reconciliation is completed at discharge and the GP receives the information required to follow up their patient in primary care. This audit shows the excellent quality of information provided by the clinical pharmacist on the IDS Part 2 in the majority of cases.

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A regional survey on the use of injectable medicines guidance provided by Health and Social Care Northern Ireland

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Introduction

In 2007, the National Patient Safety Agency identified the administration of injectable medicines as a concern. The recommendation to Trusts was to ensure that fundamental administration information for injectable drugs is readily available to healthcare professionals[1]. As a response to this, Northern Ireland Regional Medicines Information developed the Northern Ireland Intravenous Medicines Guide in 2008, with an updated version in 2012. Alongside this, the online national Injectable Medicines Guide (Medusa) was made available to health professionals. The UKMi network endorse this guide and support development in collaboration with the Medusa Co-Ordinator and System Manager to ensure evidence based and quality assured advice. Historically, Medusa has been poorly accessed by health professionals in Northern Ireland. The aim of this survey was to assess the awareness and the usage of each of the injectable medicines guides available to health professionals across Northern Ireland (NI). This survey will help to inform and modernise future injectable medicines information provided in NI.

The survey was sent out to health professionals in the 5 HSC Trusts in NI, with a focus on the Belfast Trust. The results will be presented in the poster, and the attitudes towards the available injectable medicines guides discussed.

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Knowledge, attitudes and beliefs of patients and carers regarding medication adherence, a review of qualitative literature

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Introduction

Medication adherence refers to "the extent to which the patient's action matches the agreed recommendations"(1). Medication adherence is vital in preventing, managing and curing illnesses and hence is linked with positive health outcomes (2, 3). Non adherence to medication is an immense problem, estimated to cost European governments €125 billion annually (4). It contributes to the premature deaths of 200,000 Europeans each year (4). The WHO estimate that 50% of patients in developed countries with chronic conditions do not take their medicines as prescribed(2). The aim of this review was to cohere evidence on the knowledge, attitudes and beliefs of patients and carers regarding medication adherence.

Methods

A search was conducted using the following databases: CINAHL, Embase, PubMed and Web of Knowledge from inception to November 2013. Titles and abstracts were screened for inclusion in the review according to pre-defined inclusion and exclusion criteria. Studies were assessed for quality and data were extracted into a data extraction form. Results were analysed thematically.

Results

The final results included 34 articles. Eight themes were identified; (i) beliefs and experiences of medicines, (ii) communication, (iii) role of, and relationship with, health care practitioners, (iv) family support and culture, (v) cost, (vi) factors related to the disease, (vii) self-regulation and (viii) access. The theme; "beliefs and experiences of medicines" was present in 33 studies, with many discussing the influence that side effects have on medication adherence.

Conclusion

This review illustrates how the knowledge, attitudes and beliefs of patients' needs to be considered when addressing non-adherence and when designing interventions to target the issue. It presents an overview of the themes which offers the opportunity to examine interventions and their relative efficacies to increase medication adherence. Policymakers need to understand the reasons and rationale behind non-adherence to provide support to patients and help them to control their illness and their health.

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GP referral letters: is the medication list accurate?

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Introduction

Medication errors are common when patients transfer across healthcare boundaries.[1] A lack of appropriate information on medicines may contribute to prescribing errors when patients move from primary to secondary care.

Aim/Objective

This audit aimed to investigate the quality of information on medicines provided by general practitioners (GPs) on emergency department (ED) referral letters.

Methodology

This audit was conducted in the ED of an urban teaching hospital. A pharmacist reviewed a convenience sample of GP referral letters. Each patient's medication details and drug allergy status as provided on the referral letter were recorded on a data collection form. The pharmacist then interviewed the patient (or their representative) and reviewed the patient's own medicines where available to determine the patient's actual home medication list and compared this with the GP list. Data analysis was conducted using Stata (Version 10, College Station, Texas).

Results

The audit included 92 patients of which 50 (54%) were male. Patients' ages ranged from 24 to 92 years. Two-thirds of the sampled letters were computer-generated and one-third were hand-written.

Overall GPs provided dose and frequency of administration information in 51% of letters sampled (computer-generated 71% versus hand-written 10%; $p < 0.001$). In addition, the patient was taking their medicines exactly as per the GP list in 22% of cases. The patient's drug allergy status was documented in 14% of the letters.

Conclusion

The study found considerable variation in the quality of information on medicines provided by GPs on referral letters. Computer-generated letters provided better information on medicines compared to hand-written letters. However patient or carer interview, as well as an examination of the patient's own medicines where available, are important in establishing an accurate picture of the patient's pre-admission medication intake.

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An audit of prostanoid infusions in rheumatology, Musgrave Park Hospital

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Introduction

Intravenous prostanoids; iloprost & epoprostenol are used in the treatment of Raynaud's Phenomenon. At present no clinical guidelines exist to advocate choice of drug, however epoprostenol is a licensed drug in the UK which is used "off-label" for this indication whereas iloprost is an unlicensed product in the UK.

Aims

- To identify which prostanoid is used as first line therapy in local practice
- To compare tolerability and side –effect profiles of each drug
- To check patients' awareness on the licensing regulations of their prescribed therapy.

Method

A prospective audit was conducted of all patients attending Musgrave Park Hospital for intravenous prostanoid treatment over a one month period 14 April – 14th May 2014. The clinical pharmacist conducted a patient verbal questionnaire and reviewed their medical notes.

Results

20 patients were included in the audit. Iloprost was most frequently used as the drug of first choice;13 patients (65%) iloprost compared with 7 patients (35%) epoprostenol. However iloprost was poorly tolerated and only 40% patients were subsequently maintained on it after use as first line as opposed to 71% for epoprostenol when used first line. 67% patients on iloprost required a dose rate reduction due to development of untolerable side effects but no patients on epoprostenol required a dose rate reduction. The most common side effects reported were; headache, nausea, facial flushing, fatigue and thirst, all of which were reported more often with iloprost compared with epoprostenol treatment. 91% of patients on iloprost were unaware this was an unlicensed drug.

Discussion

Iloprost was associated with a higher frequency of adverse effects and poorer tolerability than epoprostenol. In addition epoprostenol is a licensed medication in the UK unlike iloprost, and costs approximately one third that of iloprost. Following this audit, local clinical practice has changed to use epoprostenol as the first line agent before iloprost in line with MHRA recommendations on the use of unlicensed medicines. Patients starting treatment with iloprost will be asked to provide informed written consent in the future.

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Cost and impact analysis of the pharmacist medication reconciliation service for medical inpatients in St. James's Hospital

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Introduction

The impact of episodes of medication variances on patient welfare and also the financial burden they impose, both to the patient and the healthcare system, are significant. The cost of medication errors and by extension their impact on the running of hospitals, is generally unknown to hospital managers. The main objective of this study was to compare costs identified for pharmacists completing the medication reconciliation process with costs assigned to potential outcomes of medication variances identified.

Aim/Objective

Determine the costs and outcomes associated with the process of pharmacist medication reconciliation on admission in SJH in a cohort of medical patients.

Method

The study population was a random sample of all medical patients admitted as inpatients to the AMAU in SJH, for which pharmacist medication reconciliation had been completed at admission. A valid tool was used by a peer review group to grade the severity of medication variances identified. The severity scores were then assigned a monetary cost using a pre-designed economic model. The cost of providing the service of medication reconciliation was calculated. The costs associated with the severity of medication variances were then compared with the costs of providing the pharmacist medication reconciliation process.

Results

86 patients, with 897 medications were included in the study. 25% of all medications included in this study were associated with a medication variance with 76.7% of patients being affected. 224 medication variances were identified with an average potential cost of €64.39 per variance. Based on the average potential cost per medication variance identified in this study and the associated costs of providing the pharmacist medication reconciliation service a potential saving of €511,456.54 could be achieved over a twelve month period in the AMAU with potential savings increasing to between €1.34-1.37 million when all medical admissions over twelve months in SJH are considered.

Conclusion

The results of this study show clearly that pharmacist medication reconciliation in SJH is a positive approach to patient safety and has beneficial outcomes in terms of both its impact on patient health and hospital budgets.

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Identification and management of potential drug interactions by pharmacists in a Hepatitis C outpatient clinic in St. James's Hospital

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Introduction

The GUIDE Department at St. James's Hospital provides a viral hepatitis clinic service reviewing approximately 1,500 – 2,000 patients per annum. Patients may be mono-infected, co-infected (with HIV or HBV) or tri-infected (HCV, HIV and HBV). Many patients are being treated for co-morbidities and are taking concomitant medications in addition to being treated with direct acting antiviral based triple therapy for Hepatitis C (Peg-interferon alfa, ribavirin and a direct acting antiviral (DAA), either telaprevir or boceprevir). No Irish studies to date have examined management of potential drug interactions in this patient group.

Aims

- To describe the number and pharmaceutical class of concomitant medications within the study population.
- To audit the frequency and management of potential drug interactions identified in patients treated for Hepatitis C with DAA based triple therapy.

Methodology

All patients treated for Hepatitis C with triple therapy in the GUIDE clinic from Jan 2013 – Jan 2014 were included in the study. (N = 32) A standardised drug interaction check list incorporating a range of drug interaction references was utilised to complete drug interaction checks for all patients in the study group. All potential drug interactions were discussed with the prescribing physician and actions taken were based on the severity of the potential drug interaction.

Results

32 patients in the study had a total of 128 concomitant medicines prescribed for management of co-morbidities. 91% (29/32) of patients were taking concomitant medicines with an average of four per patient. 81% (26/32) of patients were prescribed concomitant medicines with the potential for drug interactions with DAA based Hepatitis C therapy. 59% of patients required changes to be made to their concomitant medicines before initiation of DAA based Hepatitis C due to potential drug interactions.

Conclusion

The study identified the high incidence of potential drug interactions in patients being treated for Hepatitis C using DAA based regimens. The unique knowledge and skill base of pharmacists in reviewing and assessing the severity of these interactions is key to the safe and successful management of patients during treatment.

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Patient medication costs per day

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Over the past six years the average length of stay (LOS), for non-elective medical patients in Antrim Area Hospital (AAH) has decreased and continues to decrease. In 2008 the average Length of stay was 9.1days, this reduced to 6.2days by 2013. While the LOS is decreasing the pharmacy spend on medications is increasing at a much faster rate than inflation. It has been suggested that the decreasing length of stay may be contributing to the increased cost to pharmacy each year. The logic behind this theory is that more patients are being treated in hospital during the acute phase of their illness and being discharged sooner for management in community, which is in line with the transforming your care guidelines. It is expected that patients' medicines cost are greater at admission than discharge due to the expensive nature of treatment at admission. While many reasons for an increasing medication spend have been investigated in the past LOS has never been considered as an attributing factor.

The aim of the current project was to investigate the cost of patients' medications per day during their stay in hospital. Fifty patients were sampled from all of the discharges in one week from a number of the medical wards. Each patient had their Kardex copied and their diagnosis and LOS recorded. This information was used to calculate the total cost of all medication and consumables received by each patient per day during their stay.

The average cost on the first full day after admission was compared to the last full day before admission. The average cost per day at admission was 53% greater than at discharge. The range in costs at admission was £0.12-£109 and the range in costs at discharge was £0.12-£42.82. The average length of stay for the patients in this study was 7.7 days. This is slightly higher than the published values however this is most likely due to the fact that these patients were sampled on one week in the winter and the admissions ward was not included in the study.

The main reasons for the increased cost per day at admission compared to discharge are patients receiving more IV medication, increased prescribing of nebulisers use and increased prescribing of oxygen. IVs, particularly IV antibiotics are vastly more expensive than oral equivalents. As well as this the cost of consumables and the time required to make up IVs further increases the cost.

In conclusion the results back up the hypothesis that a decreased LOS results in an increased cost to pharmacy as the short length of stay results in more people being treated in the early acute phase of their illness and they are then discharged earlier. This bed is then filled with another acutely ill patient and therefore medication costs for the hospital have increased. A study considering a larger number of patients is now being undertaken.

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Medicine governance training at induction; introducing a structured program

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Introduction

Risk education is a key role of the medicine governance pharmacist[1]. No structured risk education program existed in the BHSCT to support pharmacists, particularly those new to the trust, manage the risk of medicines in use.

Objectives

To introduce a structured education program, providing information and training to pharmacists on medication related patient safety and on the actions and mechanisms used to ensure the safe use of medicines in the BHSCT.

Method

Initial consultation both within the Medicine Governance Team and with the wider Pharmacy Team identified a number of key areas to be included in the program. Subsequently a literature search was undertaken to examine whether any additional areas should be included. National, regional and local guidance, in the identified areas, was then reviewed and, where appropriate, written into the program.

A number of pathfinder pharmacists, who had recently commenced work in the trust, then trialled the completed program. Training feedback questionnaires using a mixture of open and closed questions were completed by this group of pharmacists.

Evaluation of this feedback resulted in a number of enhancements before a final version of the program was completed and released for general use.

Results

Feedback from pathfinder pharmacists included: Question-What extent the training has increased their knowledge of medication safety in BHSCT (5 =substantial increase, 1=no increase). Average score was 4.25

Comments have included "highly informative", "very useful especially to any new members of staff", concise and easy to read"

Discussion

Introduction of a structured education program to support increased medication risk management has been strongly welcomed by all levels of the pharmacy. It now forms part of the BHSCT new pharmacist induction program. Future plans for the risk education program include the creation of a medical technical officer version.

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Analysis of clinical pharmacy interventions made in oncology and haematology patients in the Mercy University Hospital

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Introduction

The incidence of cancer is increasing worldwide, and consequently the number of patients receiving anti-cancer chemotherapy is increasing.[1] Clinical pharmacists play an important role in ensuring the safe prescribing and administration of these agents. A systematic literature review carried out to identify and analyze existing literature available on the impact of clinical pharmacy in the oncology/haematology setting showed that clinical pharmacists have a positive impact in reducing error rates and improving patient care.[2]There is still a relative lack of pharmacoeconomic assessments in this area in the literature.

Methods

Current practice in the Mercy University Hospital (MUH) involves the screening of all cytotoxic chemotherapy prescriptions and supportive therapy by two oncology/haematology clinical pharmacists. The first objective of this study was to record and analyze the interventions made by the clinical pharmacists. The second objective was to evaluate the cost avoidance generated by these interventions.

Results

A total of 331 interventions were made on 147 patients. Types of interventions included errors of omission, dose, infusion rates, intended duration of therapy and, route of administration. The cost of providing these interventions was €1320.73. Cost avoidance was found to range from €8,572.27 to €14,459.76. Cost benefit ratio was therefore approximately 8:1 in favour of making the interventions.

Conclusion

This study has shown that significant cost avoidance can be generated from clinical pharmacy services in the MUH. It has identified the types of interventions made in the Aseptic Unit (AU) in the MUH and therefore highlighted areas for improvement of patient safety.

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Patient and staff engagement pre and post implementation of self-administration of medicines (SAM) for older patients within intermediate care

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Introduction

Personal and Public Involvement (PPI) is a way of working which allows the public and other stakeholders to help Health & Social Care (HSC) organisations to increase satisfaction, with the services they provide, through dialogue and partnership working[1]. Self-Administration of Medicines (SAM) is a philosophy of care that believes the patient should: be independent; participate in their own care; and make decisions about treatment in partnership with nursing, medical and pharmacy staff[2].

Objective

The objective was to engage with patients and nursing staff to contribute to the development, implementation and delivery of SAM in an intermediate care setting.

Method

Two questionnaires were developed and piloted, then given to patients (n=10) and nurses (n=10) for completion prior to, and six months after (nurses only), implementation of SAM in Waterside Hospital (wards 2, 4 and 5), an intermediate care community hospital. Questionnaires included Likert scales, Visual Analogue Scales (VAS) and open/closed questions. Responses were coded and entered into SPSS v21 for analysis.

Results

None of the surveyed patients (aged 75.3 ± 8.6 years) or staff had ever been involved in a formal SAM scheme. All respondents recorded an overall level of agreement to all statements made within the questionnaire. Sixty per cent of patients surveyed stated they would prefer to administer their own drugs in hospital with all patients preferring to use their own medicines brought in from home. Following implementation of SAM, nursing staff felt less fearful of patients progressing to full self-administration whilst in hospital and more confident in their medicine knowledge; however they continued to feel that it increased their workload.

Conclusion

Considered implementation of SAM using PPI has identified positive gains for patients and staff and helped identify areas for more considered planning and development with respect to timeliness and workload. This work also highlights the need for directorates to consider routinely offering patients the choice to self-administer.

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Establishing the impact of a pre-registration led warfarin counselling service

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Introduction

Anticoagulants are high-risk medicines, frequently implicated in causing preventable hospital admissions[1]. A correlation between poor warfarin knowledge, suboptimal INR control and increased bleeding rates has been established[2]. The National Patient Safety Agency (NPSA) anticoagulant alert advocated effective patient education as a central component of anticoagulation management[1]. Timely compliance with it's recommendations presents challenges for healthcare professionals.

Aim

To establish whether introducing a pre-registration led warfarin counselling service increases compliance with NPSA safety alert recommendations.

Method

Baseline data were collected during October 2013 (Table 1). The pre-registration trainee received warfarin counselling training. A standard operating procedure was developed outlining the referral procedure for this service. A pilot was undertaken for 1 month. Pharmacist opinion was ascertained following pilot completion.

Results

Table 1: Data comparison on implementation of warfarin counselling service

Warfarin-related parameter:	Baseline:		Service initiation:	
Average time required to counsel	20 mins		27 mins	
Time elapse between initiation and counselling	<24 hours	0%	<24 hours	35%
	24-48 hours	67%	24-48 hours	41%
	>48 hours	33%	>48 hours	24%
Average no. occasions on which counselling provided	1 (100%)		2 (10%) 1 (90%)	

Discussion & conclusion

This timeliness of warfarin counselling provision was increased, enhancing compliance with NPSA safety alert recommendations. Service users deemed it beneficial, streamlining their workload. If funding were available, this service could be introduced permanently, and extended to include the non-vitamin K oral anticoagulants.

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Safety initiative for new oral anticoagulants in the Irish healthcare setting

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Introduction

There are almost 14,000 patients currently receiving new oral anticoagulants (NOACs) on the GMS/DPS schemes in Ireland[1]. In response to concerns on NOAC usage in 2013[2] the MMP carried out a review of the prescribing patterns of the NOACs dabigatran and rivaroxaban in February 2014.[3] Subsequent to this review the MMP planned to produce a prescribing aid to support safe NOAC prescribing.

Methods

The MMP collaborated with pharmacists in Galway University Hospital (GUH) and the design for this guide was originally adapted from a prescribing aid in use in GUH. A review of the individual Summary of Product Characteristics (SmPC) for each NOAC was carried out along with analysis of the pivotal clinical trials. Design of the guide was structured to provide accessible dosing and drug interaction information for each licensed indication for the NOAC therapies. Input was sought from relevant stakeholders including the Irish Heart Foundation, the Irish Pharmacy Union, the Irish Institute of Pharmacy, medication safety pharmacists and a Consultant in stroke medicine. The guide was also reviewed by members of the National Medicines Information Centre (NMIC) and the National Centre for Pharmacoeconomics (NCPE).

Results

The 2014 "Anticoagulation Prescribing Tips" (see www.hse.ie/yourmedicines) guide is divided into 4 sections, the first section highlighting clinical trial data and safety considerations for NOACs. The next three sections review the licensed indications for NOACs. A tabular summary of dosing considerations, use in renal impairment and drug interactions is provided for each NOAC. A link to the guide was added to the NOAC online reimbursement application form to assist clinicians. The guide was highlighted in the September edition of the Therapeutics Today publication by the NMIC and a copy of the guide was produced by the IPU academy for dissemination to community pharmacists at an anticoagulation lecture series in Autumn 2014. A copy was also given to GPs as part of the MMP GP road show.

Follow-up

The guide will be updated as new indications and new agents become available on the Irish market. It is also planned disseminate the guide further in 2014 and focusing on feedback, the MMP will consider further guidance in relation to NOAC usage and specialist patient groups e.g. surgery/invasive procedures. NOAC prescribing trends will be reassessed using the PCRS database to determine impact of the guide.

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Theatre alerts: development of a system to highlight changes in IV theatre medicines in Belfast Health and Social Care Trust (BHSCT)

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Background

Administration of IV medicines is recognised as a high risk activity.[1] Anaesthetists in BHSCT highlighted concerns when substitute IV medicines were supplied to theatres without advance notice being given. Often a substitute medicine was introduced to address a shortage or due to a change in supplier.

Aims and objectives

To develop a system to satisfactorily highlight any changes in IV medicines supplied.

Methodology

Since October 2013 thirteen single page theatre alerts have been issued. The process for developing these alerts involves timely identification of a likely shortage of an IV medicine used in BHSCT theatres and sourcing a suitable alternative. An alert is then drafted. As similarity in appearance between IV medicines has been identified in BHSCT and elsewhere as an issue[2], a check is made to ascertain if the proposed new product is similar to another IV medicine already in use in BHSCT theatres. This is carried out by checking against a BHSCT developed 'livery library'.

Results

The alerts have been issued to lead anaesthetists and lead theatre nurses in all BHSCT theatre complexes for information and cascade to their staff. While a formal evaluation has yet to be conducted, anecdotal feedback indicates the alerts have been well received and theatre staff have requested their continued production.

Conclusion

Introduction of a simple system to highlight changes in IV medicines has addressed a deficit in information regarding IV medicines used in BHSCT theatres. These alerts have been well received by senior and frontline staff.

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An audit of VTE risk assessment in inpatient wards

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Introduction

In 2005, UK House of Commons issued a report estimating that 25000 people die each year from venous thromboembolism (VTE) contracted in hospital. VTE is highly preventable and NICE have issued guidance on reducing the risk of VTE[1]. The NI VTE Advisory Group drew up a risk assessment form (2011) and this has been in use in the NHSCT. It aims to assess level of mobility, risk factors for VTE, bleeding risk and, if indicated, to prescribe thromboprophylaxis. The current study sought to audit the use of the assessment form in 2 wards, which were primarily used for rehabilitation of patients following a fracture or cardiovascular event. These patient groups tend to be elderly and there is concern that VTE prophylaxis, if prescribed, may not be appropriate for the patient's weight or renal function.

Aim

The aim of this audit was to assess if medical staff were assessing patients at the appropriate times and whether their thromboprophylaxis prescribing was appropriate. The audit standards were those outlined by NICE, namely that all patients over 18 years who are admitted to hospital must be VTE assessed on admission, 24 hours after admission and regularly throughout the patient's admission.

Method

All patients admitted to the 2 study wards over a two week period were included in the audit. A proforma sheet was drawn up and used to collect data on these patients.

Results

The results show that only 5% (1 of 22) of patients had a VTE assessment form completed on admission. However, in practice 86% of patients (n=19) were appropriately prescribed or omitted thromboprophylaxis. Of those who were inappropriately assessed (n=3), one had body weight <50kg, one weighed <50kg & had creatinine clearance <30ml/min and one had a reduced dose of enoxaparin with no stated reason. Ten patients were reassessed 24 hours after admission.

Discussion

In practice, all of the patients had a VTE assessment on, however, the majority were not recorded on the appropriate assessment form and a number of assessments were inappropriate. One contributing factor to low adherence may be that there is a regular rotation of medical staff leading to unfamiliarity with the admission packs. Recommendations for ensuring completion of VTE assessment on admission are: educating/reminding staff of standards; repositioning the VTE risk assessment form in the admissions pack to encourage completion; using the most up to date form which includes a guide for dose adjustments relative to patient's weight and renal function. Follow up audit is advised to assess adherence to recommendations.

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Knowledge attitudes and beliefs of parents regarding fever in children; a Danish interview study

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Introduction

Correct management of fever and febrile illness in children is not well understood in the population(1) despite fever being one of the most common childhood conditions treated by parents.(2) Many caregivers find the task overwhelming(3), resulting in concern and anxiety.(4) Every year there are numerous cases of unintentional over- and under-dosing of children with antipyretics.(5) This study describes the perspectives of parents of young children with fever.

Methods

Semi-structured interviews were conducted in Copenhagen, Denmark with either one or both parents, of children where at least one child was five years or younger. Interviews were audio recorded and transcribed verbatim. Data was analysed thematically.

Results

Of 24 parents approached, 21 (87.5%) parents of 21 children participated. Reasons for non-participation were parental time constraints. The average interview duration was 8 minutes and 52 seconds. There were 12 female and 9 male parents interviewed. There were 14 (66.7%) first-time parents. Five themes emerged from the data: concern; help-seeking behaviour; knowledge; management and initiatives.

Discussion

The knowledge, attitudes and beliefs of parents regarding fever and febrile illness in children has an important impact on patient outcomes and parental competence. User-friendly initiatives are required to help parents manage a child with fever.

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Transition to provision of pharmacy services over a 7 day working week in NHSCT

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Introduction

The aim of the project was to extend service cover at weekends (Saturday and Sunday 9am to 5pm) prioritising risk in relation to discharges, admission, in-patient monitoring and ward supply, in line with available resources.

Method and Actions to Implement Change

Following meetings with staff and Trade Unions an initial proposal was issued (Dec 2010) outlining new hours, timescale, impact on staff, comparison of T+C's, operational considerations over-arching principles. A Staff survey seeking views on range of options was issued. Feed-back lead to a revision of the proposal. The initiation of the pilot was supported by providing staff with a range of documents.

Results and Outcomes

In Antrim Hospital staff work their contracted hours over a 7 day period adjusted for weekend rota, working up to 8 weekend days in 12months. Team sizes consist of 4 pharmacists and 4 techs/atos on Saturday, 3 pharmacists and 4 techs/atos on a Sunday. From Oct 2012 to Sept 2013 teams processed 3119 discharge prescriptions, and performed 307 meds rec on admissions at weekends. Ward supply increased by approximately 22%. Telephone calls to our Emergency Duty Pharmacist decreased. Before pilot, staff stayed beyond shift finish time every weekend. During the pilot this was recorded on only 8 of 104 weekend days.

Conclusion

We have implemented a sustainable change to working hours for the benefit of patients and to the general satisfaction of staff. In the first 12 months of the 'pilot' at least 3426 patients have availed of a world-leading medicines management system at weekends[1]. Analysing data has enabled identification of trends and training needs. Peaks and troughs experienced by our teams generally related to the presence of medical colleagues. We must continue to develop more flexible arrangements to further utilise our staffing resources.

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Consultant pharmacist led nursing home outreach clinics lead to improvement in patient safety and reduction in emergency department attendances

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Objectives

The objectives of this project were to demonstrate the benefit of holding outreach clinics in nursing homes with a consultant pharmacist, to rationalise the use of medicines, and to assess if there was an impact on the number of hospital admissions and emergency department attendances by nursing home patients.

Method

Over the two year project a total of 727 patients were reviewed in 16 nursing homes. Data on patient age, number and types of drugs taken, and types of interventions was collected for all patients reviewed. This data was presented to the home at the end of the series of clinics, and education sessions for nursing staff offered where necessary. In addition, for all the nursing homes visited monthly admissions and emergency department attendances were monitored. More detailed data was collected for 100 patients on type of intervention, Eadon grading of interventions (1), medication appropriateness using the Medication Appropriateness Index (MAI) (2), and drug costs (kardex calculations using dm & d prices).

Results

In the 727 patients reviewed there were an average of 2.7 interventions per patient. For all clinics, individual and total MAI scores decreased significantly after clinic review ($p<0.001$), indicative of more appropriate prescribing. In the 100 patients who had their interventions ranked according to Eadon grading, there were a total of 281 interventions, 28 of which were ranked grade 5 or 6, which means the intervention was very significant preventing major organ failure or adverse reaction of similar importance, or was potentially lifesaving. Over the project duration, the average monthly presentations to the Emergency department from these homes dropped by two per month, with associated potential cost savings estimated at £122k to £208k. Total drug cost savings for the two-year period were estimated at £213k.

Conclusions

Nursing Home outreach clinics have resulted in cost effective and improved patient safety via significant clinical interventions and much improved appropriateness of medicines prescribed for the complex elderly patient. The project has demonstrated effective working across the primary and secondary care interface, with excellent co-operation between general practitioners, nursing home staff, hospital and community pharmacists, geriatricians, and other staff such as community dieticians, community physiotherapists, and psycho-geriatricians. This model has resulted in significantly improved patient outcomes and it is hoped to roll this out on a regional basis.

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Recording medicine related admissions to hospital

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Aim

To improve the appropriate recording of medicines related admissions to hospital in the Northern Health and Social Care Trust (NHSCT).

Design

A before and after intervention study.

Method

The baseline number of non-elective medicine related admissions to NHSCT during 2013 was identified using medicine related ICD-10 codes compiled for this study. Data were analysed according to ICD-10 chapter, age and medicine class. The information and terminology necessary to facilitate recording and coding were agreed together with the pharmacist role. Education and awareness resources were developed and distributed to medical and pharmacy staff and education and awareness sessions were delivered to promote identification and appropriate recording. Recording by pharmacists was also introduced. The number of medicine related admissions between February and May 2014 was identified and was compared with the same period during 2013 to determine if the intervention improved recording. Pharmacist's views on their new role were identified through a focus group.

Results

1671 (3.74%) non-elective admissions were coded as medicine related during 2013 (1191 <65 years and 480 ≥65 years). T chapter codes were the most frequent (53.54%) and central nervous system medicines were the most commonly coded medicine class. 523 admissions were coded as medicine related from February to May 2013 (3.58%) increasing to 578 (3.89%) during the same period in 2014. The focus group revealed that pharmacists viewed the identification and recording of medicine related admissions as a role for medical staff, indicating that pharmacists could assist in this role.

Conclusions

Whilst the number of non-elective medicine related admissions to NHSCT increased following the intervention, the findings support the need for additional measures to further facilitate appropriate recording, including the progression of proposed changes to the Writemed and Patient Centre electronic systems and further consideration of the pharmacist role.

Introduction of a medication incident report form for pharmacists in BHSCT

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Objectives

To introduce a medication incident report form that would encourage BHSCT pharmacy staff to report 'no harm' prescribing and administration medication incidents to simplify and increase reporting, improve data report quality, improve learning and guide practice to minimise harm from medication errors.

Method

The Medicine Governance Team consulted with the Risk and Governance Administration Manager regarding redesigning the pharmacy specific medication incident report form 'Pharma Form', so producing an electronic version which could be accessed via the Trust Datix incident reporting system. This was trialled in August 2010. Training on use of this form and Datix access was given to all clinical pharmacists across the Trust. A'Standard Operating Procedure for the Prevention, detection and reporting of medication incidents' was written up for this form. This was inserted into the Trust Clinical Pharmacy Standards and on Datix web. The 'Pharma' form was a condensed version of the extensive Trust Incident Report Form. There is no approver section, and it is not essential to include patient details. It also includes pre-populating fields so meaning that if staff select moderate in severity, a warning appears directing user to a BHSCT adverse incident reporting form. Where harm has occurred, this must be reported on a Trust incident form or via Datixweb; it should not be reported on a Pharma form.

Results

A search indicates that since August 2010 there has been over 2,000 medication incidents reported using the Pharma form. The Trust Medicines Governance team carry out bi-annual medication incident reporting blitzes for the period of a week, the data gathered from these indicate that pharmacists are reporting via the Pharma form in approximately 75% of medication incidents reported.

Discussion

Introduction of a more streamlined, user-friendly form to encourage incident reporting from pharmacists has increased the reporting levels. This focus on patient safety is in line with the recommendations of the Francis report and the data that results from review of these incidents increases the learning which is used to educate other staff in the Trust thus reducing harm to patients and help preventing further similar incidents. Future plans for the program include the creation of a medical technical officer version and allowing further fields e.g. for specialist medicines to be inserted.

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Falls among people with intellectual disabilities living in long-term care. Is an interdisciplinary falls group an effective intervention?

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Background

The increased longevity of people with intellectual disabilities is a relatively new phenomenon. They are a heterogeneous population with a multiplicity of predisposing factors for falls and injury post fall. The prevention of falls is an important issue in maintaining the health, quality of life, and independence of people with intellectual disabilities.

Aim

Effective fall prevention programmes aim to reduce the number of people who fall, the rate of falls and the severity of injury should a fall occur.

The aim of this project was to investigate the effectiveness of an interdisciplinary Falls Group, which included input from pharmacy, activation, nursing, nutrition, occupational therapy, and physiotherapy.

Methods

Falls in the centre were reported on a fall and Injury Information Form [FIIF]. Data for 4 years was extracted by the pharmacist, inputted into EXCELL, extracted to SPSS version 19 and analysed.

Analysis

Analysis included both descriptive and inferential statistics. Inductive analysis was performed to examine potential associations between diagnoses and other circumstances of the fall, and the outcomes variables of injury from fall and number of falls.

Results & recommendations

Fall prevention strategies should be targeted at the peak time for falls- at 9-10am and 12-1pm. People with a diagnosis of epilepsy differed significantly from those without, in relation to the distribution of number of falls [Mann-Whitney U = 257, p = .O2] . Statistical analysis of the annual number of falls in this centre showed a significant decrease of 75% in the yearly mean falls per resident between 2006 and 2011.The interdisciplinary Falls Group in this centre proved to be an effective intervention to prevent falls in this vulnerable population. A similar Falls Group in other locations of care may have equal success.

Correspondence and presenting author: Bernadette Flood MPSI St Joseph's Centre, Daughters of Charity Disability Support Services, Clonsilla, D15Telephone: 01-8249640 Email: bernadette.flood@docservice.ie I wish to be considered for oral or poster presentation.

A regional collaborative approach to ensure optimum use and improve patient safety using an aminoglycoside

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Background and Objective

Gentamicin is the focus of a Regional Quality Improvement Collaborative. Safe, effective therapy with gentamicin requires good practice in dose selection and monitoring of serum levels. Suboptimal therapy occurs with breakdown in the process of drug dosing, serum blood sampling, laboratory processing and level interpretation. Unintentional underdosing or toxicity may result. In a 210 bedded general hospital in Ireland, audits post extensive education demonstrated poor compliance with the local adult gentamicin protocol approved in 2011 mainly due to sub-therapeutic dosing and levels taken at the incorrect time. The aim of this project was to optimize the use of gentamicin locally using a regional collaborative approach and process improvement methodology.

Setting and Method

Regional antimicrobial pharmacists collaborated and considered process measures critical to quality. Baseline practice was examined through audit. Root cause analysis informed improvement measures. These included a standardized monitoring schedule inclusive of assay sampling and drug administration timing, which maximized local capabilities. The Quality Improvement Methodology was followed using Aim-Measures-Ideas:

Aim

To ensure therapeutic efficacy whilst minimizing toxicity
Measure 1: potential for failure to treat infection due to underdosing or doses missed/delayed
Measure 2: potential for nephrotoxicity and ototoxicity due to trough levels taken later than recommended
Measure 3: potential for non-standardization of practice due to rotating doctors regionally
Ideas: develop a regional adult gentamicin once daily treatment protocol including: renal dosing; modification of trough window to 18-22 hours post dose to facilitate processing in the laboratory; maximum dose 480mg; gentamicin calculator inbuilt in antimicrobial App; continuous education for doctors and nurses.

Results and conclusion

A safe and effective standardized adult once daily gentamicin treatment protocol was achieved collaboratively and approved by the D&T committee. This will assist doctors and nurses to utilize gentamicin appropriately in order to enhance patient outcomes. Compliance will be audited through a structured localized approach with multidisciplinary stakeholder involvement.

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Innovating and collaborating - synergy between the hospital and the university

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Background

Interim accreditation standards for pharmacy degree programmes emphasise the importance of preparing undergraduates for patient centred practice.
In 2012 the Pharmacy Department (PD) and the School of Pharmacy (SoP) signed a Memorandum of Understanding, the first such partnership in Ireland. As a result, undergraduate pharmacy education is undergoing a transformation from didactic learning delivered by academic staff to a patient centred clinical model delivered by hospital pharmacists.

Purpose

To establish a mutually beneficial, cost neutral partnership between a university School of Pharmacy and a teaching hospital pharmacy department.

Materials and methods

The following new elements have been added to the students' curriculum:
1. Lectures in therapeutics from practising clinical pharmacists, aiding contextualisation of material.
2. Clinical teaching at the MMUH, small group workshops provide an opportunity to integrate knowledge and apply it to the management of clinical problems in individual patients
3. Career and management seminars, giving exposure to the reality of decision making in health care.
4. CV preparation and interview skills for structured summer placements in the hospitals.

Results

Mutual benefits of the Partnership:
1. Positive student feedback has highlighted the knowledge of the pharmacy staff, the "real life" focus of the material and teaching methods.
2. MMUH Pharmacists were appointed honorary lecturers of the RCSI.
3. Expert input from RCSI staff into MMUH practice research.
4. Enhanced profile of the pharmacy department within the hospital and nationally.

Conclusions

This synergistic collaboration has addressed an unmet need in Irish pharmacy undergraduate education. It is cost neutral and is being delivered within existing resources. This innovation will equip pharmacy students to be the patient centred professionals of the future, ensuring that patients are supported to the fullest extent by educated, competent, and empathetic pharmacists while enhancing career development for hospital pharmacists.

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The introduction of an accredited community pharmacy placement programme for MPharm undergraduate students

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Introduction

According to the General Pharmaceutical Council (GPhC), pharmacy schools must provide students with opportunities for practical experience in interacting with patients, carers and other healthcare professionals.[1] The aim of this work was to create and evaluate a robust, professional and quality-assured framework for community pharmacy placements, delivered in partnership with a network of Queen's University Belfast accredited 'Student Training Centre' pharmacies across Northern Ireland (NI).

Method

In 2013/14, pharmacists completed online training (which had been developed by academic pharmacists within the School of Pharmacy and piloted by PhD and post-doctoral pharmacists) and submitted a training agreement to become an accredited member of the placement network. Students were allocated to pharmacies within the network and feedback was obtained from both parties via pre-piloted online questionnaires through Survey Monkey® (n=10 questions in the mentor version and 13 questions in the student version). The questionnaire responses were entered into Microsoft Excel® and data analysis was undertaken.

Results

There are 159 accredited placement pharmacies across NI and 406 students have completed a placement. To date, the response rate for the mentor questionnaire is 65%, and student feedback will be obtained during autumn 2014. Results and feedback have been encouraging thus far; 68% and 32% of mentors respectively strongly agreed or agreed that the training has helped them support the student whilst on placement. Additionally, 98.5% considered that the student found the learning experience to be beneficial. It is anticipated that additional results from the remaining mentors and the students will be available for analysis by January 2015.

Discussion

Professional placements are as much about gaining an insight and understanding of the culture and language of that profession as gaining technical skill and experience[2]. We propose that having a network of formally accredited pharmacists, who have purposefully opted into the process, will ultimately help ensure better learning outcomes and skills for the students. This programme is still in its infancy but the initial results and feedback are very encouraging.

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Introduction of pre-pack analgesia in day procedure unit to facilitate a timely discharge

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Background

The majority of patients admitted to Musgrave Park Hospital Day Procedure Unit (DPU) require simple analgesia upon discharge. The existing process of generating DPU prescriptions, arrival at the pharmacy, and delivery back to the ward was disproportionate to the actual time taken to dispense them. This sometimes caused delayed discharges and unnecessary overnight stays, resulting in financial implications for the Trust, and dissatisfaction for patients and their families.

Purpose

The aim of this project was to introduce a system for nurse-led supply of selected analgesia discharge prescriptions. This was to facilitate a more efficient and cost effective discharge of patients.

Methods

DPU prescribing trends were analysed, and a pre-printed prescription was developed and agreed. Data collection of DPU prescription numbers, duplicate prescriptions, number of delayed discharges, and unnecessary overnight admissions, were recorded prior to and 1 month post the implementation of the service. Training was provided for staff and a standard operating procedure introduced. Staff satisfaction surveys were employed to measure the effectiveness of the new service.

Results

There was a 100% reduction in overnight admissions, duplicate prescriptions, and patients discharged without medication. All staff stated that they saw a workflow improvement. Efficiency gains have enabled pharmacy staff to complete more complex discharge prescriptions within the target turnaround times.

Conclusion

The program has been advantageous to Pharmacy, Nursing and Medical staff, bringing greater efficiencies, and cost benefits. There is also the potential application of this service to other ward areas to provide similar benefits.

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Nutrition education and community pharmacy; an exploration of current attitudes and practice

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Introduction

GPs are described as the 'gatekeepers of primary care' however studies have shown that patients interact with community pharmacists up to 4 times more often than their GP with an average of 12 to 15 consultations a year [(1)]. As members of one of the largest and most accessible healthcare professions, pharmacists are ideally located to play a key role in disease prevention by educating the public about modifiable behaviours such as dietary intake and lifestyle decisions [(2,3)].

Methods

The questionnaire consisted of 27 questions defining demographic characteristics (Q1-11), knowledge (Q12-16), attitudes (Q17-22) and practice (Q23-27) of pharmacists in relation to nutrition. This was circulated to all practising pharmacists in NI. Statistical tests were performed using SPSS and qualitative data gathered from open ended questions was analysed using a content analysis approach.

Results

An 11% response rate was achieved with 160 community pharmacist questionnaires eligible for analysis. Nutrition education at undergraduate, pre-registration and professional level was considered inadequate by 79% (n=126), 83% (n=132) and 81% (n=130). Pharmacist attitudes towards nutrition in public health scored a median value of 11 (11-12) while attitudes regarding their perceived ability to provide nutritional advice to patients (confidence) resulted in a lower median value of 7 (6-8). The median practice score was 9 (8-10). Positive correlations exist between practice and attitude towards nutrition in public health (r=0.178) and confidence (r=0.366).

Conclusion

Current attitudes positively support the importance of nutrition in public health but a lack of confidence appears to negatively affect nutritional practice in the community setting. Utilisation of the unique access pharmacists have to patients of all ages and nutritional status has the potential to significantly improve nutrition practice in the primary care setting leading to improved patient outcome and more cost effective treatments.

[1]Ball L, Hughes R, Leveritt M. Health professionals' views of the effectiveness of nutrition care in general practice setting. Nutrition & Dietetics (2013) 70:35-41 [2] Pogge E. A Team-Based Learning Course on Nutrition and Lifestyle Modification. Am J Pharm Educ 2013 77(5). [3] Lenders C, Deen D, Bistrian B et al. Residency and specialties training in nutrition: a call for action. Am J Clin Nutr (2014) 99:1174S-1183S

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CODEMISUSED: codeine use, misuse and dependence, results from medical, pharmacist, codeine dependent and stakeholder research

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Contemporary research has underscored the need for '*increased pharmaco-vigilance'* around codeine dispensing. Codeine represents an interesting quandary in terms of its regulated status, individual variation in metabolism of codeine, patient estimation of safe dosage and self-medication, and potential for misuse, dependence and related harm. Misuse can be therapeutic and non-therapeutic, and includes incorrect but legitimate use for medical purposes; use outside of acceptable medical guidelines when self-medicating at higher doses and for longer than advised; use other than for the instructions on the label or the intended purpose; recreational use for mind altering effects; and where risks and adverse consequences outweigh the benefits.

Difficulties in estimating the scale of misuse centre on product availability in pharmacies and online, and the heterogeneous and hidden nature of misuse and dependent use. Gaps in knowledge centre on prevalence of misuse and dependence, therapeutic and non-therapeutic pathways and trajectories to misuse and dependence, risk profiles and characteristics of users, poly pharming practices, adverse health and social consequences, and displacement between legitimate pharmacy supply and illicit sourcing. Evidence to contribute to our understanding of the issue, and inform law enforcement, drug surveillance, public health, harm reduction, pharmacy, clinical and treatment practice is warranted.

CODEMISUSED is an FP7 Marie Curie Industry Academia Partnership and Pathways funded project, (€2.04million) investigating codeine use, misuse and dependence in Ireland, the United Kingdom and South Africa. The project is registered on the European Network of Centre's for Pharmacoepidemiology and Pharmacovigilance (ENCePP). It aims to investigate the extent and nature of codeine use, therapeutic and non-therapeutic misuse and codeine dependence in three countries (Ireland, United Kingdom and South Africa) and from a variety of perspectives. Data will be used to inform the design of pharmacy based brief interventions, risk management and customer monitoring systems, continuing professional development training and design of specific clinical and community pharmacy treatment protocols.

We present here preliminary findings from a meta-analysis and systematic review of literature on codeine, national medical practitioner and pharmacist surveys, internet monitoring and drug user forum analysis, interviews with codeine dependents, and national consultations with key stakeholders around practice innovation.

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Evaluation of the Irish Institute of Pharmacy's pharmacist information events

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Introduction

In 2014, the Irish Institute of Pharmacy (IIOP) held 60 Pharmacist Information events from Donegal to Cork. These events were designed to help pharmacists understand what the establishment of the IIOP meant for them and the profession.
The two hour sessions were facilitated by a Peer Support Pharmacist and included:

- a background to the Institute of Pharmacy
- an overview of CPD and the new CPD system for pharmacists
- an overview of the new quality assurance process.

As part of the IIOP's goal to continually improve the quality of its engagements with pharmacists and to shape future training delivered through the IIOP, an evaluation of these events was undertaken.

Methods

The IIOP worked with the RCSI Quality Enhancement Office (QEO) to develop a standardized questionnaire to measure:

- the success of the events in helping pharmacists to achieve the defined learning outcomes.
- satisfaction with the events
- further learning needs identified by pharmacists

This questionnaire was issued by the QEO to all pharmacists who booked to attend these events. The responses were collated both mid-year and at the end of 2014.

Outcomes

At the mid-year evaluation 90% of respondents agreed that the learning objectives for the events were relevant to their area of practice. Just 20% stated that the event had not changed their next steps in relation to their learning. The mid-year responses were used in the planning of the remaining events.
At the end of the year the IIOP had a clear measure of event satisfaction, the success of the events in helping pharmacists to achieve the learning outcomes and had identified further learning needs for pharmacists which will be addressed in the events planned for 2015.

The output of this evaluation will be presented at the conference.

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The use of electronic voting systems to enhance active learning

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Introduction

There is a significant body of evidence that greater interaction in face-to-face teaching situations results in greater engagement amongst participants with the learning process and thus an increased understanding of the subject matter. Whilst a range of active learning methods have routinely been integrated into the NICPLD live workshop programme e.g. case studies, we were keen to introduce alternative methods of active learning to support participant engagement and learning.

Method

Electronic voting systems promote active learning and participant engagement by allowing tutors to pose a question to participants who respond using a ResponseCard keypad. Such technology had been used within Queen's University Belfast for some time and having piloted the use of the Turning Technologies TurningPoint software and keypads, NICPLD purchased the system in summer 2012 for integration into components of the live programme.

Results

The electronic voting system, TurningPoint, has now become integrated into NICPLD's live workshop programme. The technology has been used in uniprofessional workshops attended by pharmacists or pharmacy technicians and also in interprofessional workshops attended by pharmacists, GPs and nurses. The technology has been used in a range of different methods:

(i) to determine the baseline knowledge of participants at the beginning of a session
(ii) to determine the extent of participant learning at the end of a session
(iii) to work through examples and develop knowledge throughout a workshop session
(iv) to facilitate peer discussion e.g. when considering ethical issues or to support professional decision-making.

Discussion

The integration of the electronic voting system into the NICPLD live programme has been welcomed by participants and tutors. The value to the learners are many; the system allows anonymity when responding, encourages active engagement in learning, allows learning to be paced at a pace that can be dictated by the learner group and promotes discussion within the learner group. From the tutor perspective, the system provides an additional means to enhance student engagement and allows tutors to determine the extent of learning at a given point in time. In addition, the system is straightforward and simple to use from both the tutor and learner perspective. Due to the varying and extensive ways in which we utilise the system, Turning Technologies will feature NICPLD as a model of good practice on their website – www.turningtechnologies.co.uk

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Mandatory CPD process introduced by the Pharmaceutical Society NI

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Introduction

The Pharmaceutical Society NI is the regulatory body for pharmacists in Northern Ireland. Since January 2005 Continuing Professional Development (CPD) has been a professional and ethical requirement of registration with the Pharmaceutical Society NI and over the years we have been achieving a high rate of success, with 99% of registrants assessed (n=237), for CPD year 2012/13, achieving a successful pass mark for their CPD submission.

New legislative provisions

In June 2013, CPD became a statutory legal requirement for registration with the Pharmaceutical Society NI with the amendment to article 4A (6) of the Pharmacy (Northern Ireland) Order 2012. To coincide with the introduction of mandatory CPD the Council of the Pharmaceutical Society NI developed a CPD Framework outlining to registrants their CPD requirements including the consequences of CPD non-compliance to their registration status.

CPD Framework [1]

Key changes to the process include:

- The annual submission of a CPD portfolio from ALL registrants by the 31 May 2014
- The unrestricted use of simulation and/or 'future application of learning' in the evaluation stage of a CPD cycle should a registrant be unable to describe an actual application of learning
- A new application process for 'extenuating circumstances' (that is, requests for CPD exemptions/deferrals or partial submissions)
- Two remediation opportunities for registrants who make unsuccessful submissions.

Outcomes for CPD year 2013/14

In June 2014, for the first time, all registrants were required to submit their CPD portfolio records to the Pharmaceutical Society NI from which a sample was generated for formal assessment. A total of 99.6% (2146 registrants) engaged with our statutory CPD process with 0.4% (10 registrants) not engaging. The 10 registrants who did not engage received notices of removal from the pharmaceutical register of the Pharmaceutical Society NI in August 2014. The results for the CPD year 2013/14 will be finalised in March 2015.

References

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The use of parecoxib by continuous subcutaneous infusion (csci) for cancer pain in a hospice population

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Background
Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly prescribed for cancer pain although there are limited options for administering them by continuous subcutaneous infusion (CSCI). Parecoxib is a parenteral NSAID licensed throughout Europe for the short-term management of post-operative pain. It has been used outside its licence by CSCI for treating cancer pain in palliative care patients in Northern Ireland. Clinical experience suggests parecoxib CSCI may be useful in this population but empirical evidence in relation to its safety and efficacy is lacking.

Aims.
i) To characterise the use of parecoxib CSCI at a specialist palliative care unit in Northern Ireland over the period 2008-2013 through a retrospective chart review.
ii) Using an online survey to investigate the views of medical prescribers within specialist palliative care units in Northern Ireland regarding its use for treating cancer pain.

Results
Parecoxib CSCI was initiated in 80 patients, most commonly for bone pain, (mean treatment 17.9 days, standard deviation 18.1). There was a statistically significant reduction in the number of opioid breakthrough doses ($p = 0.001$) and pain scores ($p = 0.002$) over seven days but no significant opioid-sparing effect ($p = 0.222$). It was generally well-tolerated with local site irritation occurring in 19% of patients, gastrointestinal side effects (16%) and renal impairment (14%). From the survey 92% of respondents had prescribed parecoxib. A majority (74%) commented it provided better analgesia than oral NSAIDs and acknowledged the lack of published information on parecoxib CSCI. Although side effects were identified as influencing prescribing the fact that its use is outside the product licence did not.

Conclusions
Parecoxib could have a valuable place managing cancer pain, especially towards the end of life when CSCI administration is relied upon. Further studies into the efficacy and tolerability of parecoxib CSCI and the development of evidence-based guidelines are merited.

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A qualitative exploration of the understanding and attitudes of pre-registration pharmacists and pre-registration pharmacist tutors in relation to evidence-based medicine.

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Introduction

While research has been undertaken investigating the views of community pharmacists and the public in relation to evidence-based medicine,[1] little is known about the views of pre-registration pharmacists (trainees) or pre-registration pharmacist tutors (tutors), specifically. The primary aim of this study was to explore trainees' and tutors' opinions and attitudes with regard to an evidence-based approach to over-the-counter (OTC) consultations.

Method

Following ethical approval, using pre-piloted topic guides, semi-structured, one-to-one interviews were conducted with trainees and tutors to discuss decision-making processes relating to supplying OTC medications and the influence of tutors regarding evidence-based practice. Interviews were digitally recorded and transcribed verbatim. Thematic analysis was undertaken.

Results

To date, 7 trainees (2 males, 5 females) and 5 tutors (2 males, 3 females; tutor experience ranging 10 - 22 years) have been recruited and interviewed. In most cases, tutors and trainees came from the same pharmacy. The main theme to emerge was the apparent lack of an evidence-based approach to practice embedded in pre-registration training. Other themes identified were inconsistent opinions on evidence, safety and patient demand. Most participants reported finding it helpful to use evidence to support OTC advice and they would sometimes highlight a lack of evidence to patients (if applicable), but it ultimately would not deter product supply. This was accentuated by the participants' focus on meeting patients' demands for products, provided that safety was not compromised. Participants' also queried advice issued by the Medicines and Healthcare products Regulatory Agency (MHRA) relating to OTC cough and cold products no longer being recommended for children under 6 years, with five participants (three tutors and two trainees) in favour of their use. One participant justified their use in this age group to alleviate parental concern, "because it helps the parents as well, peace of mind…" (Trainee 5).

Discussion

It appears an evidence-based approach is not a central component of pre-registration training relating to OTC consultations. Initial themes are based on limited numbers of interviews which will continue until data saturation is achieved. On-going research may provide a useful platform to develop future training programmes.

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The Pharmaceutical Society of Northern Ireland pre-registration e-portfolio.

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Introduction

The Pharmaceutical Society of Northern Ireland (PSNI) is the regulatory body for pharmacists in Northern Ireland. After completing a four-year Masters of Pharmacy degree, graduates become pre-registration pharmacist trainees (trainees) undergoing training for one year in a pharmacy accredited by the PSNI under the assessment of a pharmacist tutor (tutor). This is considered a formative year in terms of training and professional socialisation for pharmacy graduates.

Pre-registration performance standards

Trainees must evidence that they have met performance standards. Standards are divided into three units: 'Personal effectiveness', 'interpersonal skills' and 'medicines and health'. Until 2012, trainees compiled paper-based portfolios using record sheets to demonstrate they had competently achieved the performance standards. Once reviewed by the tutor, the portfolio was submitted to the PSNI and reviewed as part of the process to register as a pharmacist.

Movement to online training

Following a review of the paper-based system the decision was made to move the portfolio online. The main function of the e-portfolio is for the record sheets to now be completed as 'cycles of learning'. Cycles are self-directed and provide structure for trainees to identify learning needs, reasons for same with ways to address them, providing a reflective approach to learning. Cycles are completed and approved by the tutor when the trainee takes 'action' on the learning need.

Results of implementation of the e-portfolio

E-portfolios facilitate time efficient, effective communication, enable remote discussion, allow progress to be continually reviewed and the standard of e-portfolios appear more consistent and superior to the paper-based system. Printing costs have been directly saved by the PSNI and there have been substantial environmental benefits as approximately 40000-50000 pages of paper were previously produced. An anonymous survey[1] of 182 trainees (97% response rate) evaluated the e-portfolio system. 95% of trainees found it 'user friendly and each to navigate'. 92% found it helped 'identify and record what they had done'. 88% felt this approach helped identify learning needs that had been met and those which still needed addressed.

Conclusion

The e-portfolio system has improved the overall standard of work submitted to PSNI and created substantial savings.

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D-Nav; **A real world evaluation of a practical solution to achieve optimal glycaemic control in patients with diabetes**

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Objective

d-Nav is a handheld device that automates the process of insulin dosage titration using Diabetes Insulin Guidance System [DIGS] software. A service evaluation was conducted in the diabetes clinic at the Ulster Hospital Dundonald, to determine the effectiveness of using d-Nav in achieving optimal glycaemic control in patients attending this clinic.

Method

An exploratory single-centre pilot evaluation of the use of d-Nav in patients aged ≥ 21 years with an HbA1c ≥ 53 mmol/mol who were receiving insulin therapy for at least one year. Patients were asked to use d-Nav to monitor their blood glucose level before every insulin injection and when they suspected the occurrence of hypoglycaemia, to allow d-Nav to adjust insulin dosage. At scheduled 3-monthly clinic visits HbA1c was measured and information on episodes of hypoglycaemia collected from d-Nav and by patient reporting. Patients were followed for a minimum of 6 months.

Results

A total of 96 patients completed the evaluation (active users). The mean (± SD) HbA1c for the active users decreased from 77± 15mmol/mol at baseline to 62 ± 13mmol/mol at the 3–5 month clinic visit and to 58 ± 13mmol/mol at the 6–12 month clinic visit. In patients for whom paired data were available, the decreases were statistically significant at both post-baseline visits (both $p<0.001$). The frequency of minor hypoglycaemia (blood glucose ≤3.6mmol/L) was low and well within the tolerated range.

Conclusions

d-Nav is shown to be an effective solution for achieving optimal blood glucose management in insulin users.

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Final year pharmacy students' preparedness for high-stakes OSCEs

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Background

Objective Structured Clinical Examinations (OSCEs) are an assessment method used in many health sciences. This form of evaluation can be used as a formative and/or summative process and allows components of clinical competence to be assessed in controlled environments[1]. In 13/14 OSCEs in the School of Pharmacy in QUB moved to a high-stakes assessment i.e. stations need to be passed in order to progress. Students in this cohort had already completed formative OSCEs and had a range of support mechanisms available to them.

Aim

This project aimed to gain the views and experiences of those students who completed OSCEs in Level 3 and the Level 4 formative OSCEs in Semester 1 preparing for final high-stakes OSCEs in 2014.

Method

All final year pharmacy undergraduate students (n=134) were invited via e-mail to complete an electronic questionnaire consisting of 40 questions relating to OSCEs

Results

A response rate of 53.7% (72 completed questionnaires) was achieved. The majority of respondents (64.1%) indicated that they felt prepared for summative OSCEs. Over 70 % of respondents agreed/strongly agreed to OSCEs assessing their verbal skills (87.5%), clinical knowledge (81.9%), clinical skills (86.1%) and professionalism (73.6%). A large proportion (86.7%) of respondents thought they should be held more frequently and an even larger proportion (90.5%) of respondents thought the assessments should begin in Level 1 and/or 2.

Discussion and conclusion

Whilst the majority of respondents indicated that they felt prepared for summative OSCEs, it was also evident that OSCEs could be held more frequently and introduced earlier in the curriculum to increase exposure to and familiarity with the assessment. This result has been noted in other studies and formative OSCEs have now been added to workshops throughout the programme to address this[2].

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The development by the IIOP and Pharmapod, of an online self-assessment tool for the PSI core competency framework

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Introduction

As part of the reform of education for all Irish registered pharmacists, the Pharmaceutical Society of Ireland (PSI) developed a Core Competency Framework (CCF) for Pharmacists in 2013. This role of this framework, based on the FIP Global Competency Framework, is to contribute towards supporting practitioner development, for effective and sustained performance. It also clearly demonstrates to patients and other healthcare professionals the key expertise that pharmacists bring to patient care and in particular to the vital role pharmacists play in the safe and responsible use of medicines in our society.

The CCF describes the competencies and behaviors expected of Irish Pharmacists in their daily practice. The aim of developing a CCF Self-Assessment Tool is to aid pharmacists in assessing and reflecting on their learning needs; support the implementation of CPD structures for Pharmacists; facilitate pharmacists to enhance their practice and patient outcomes.

Methods

The IIOP commissioned Pharmapod to develop an online Self-assessment tool for Pharmacists. A technical Specification was supplied by the IIOP to Pharmapod for the CCSAT system requirements. Pharmapod designed the CCSAT as per the technical Specification, but also added enhanced user functionality such as quick tours, progress bars and personal PDF. The project was completed within the specified timeframe, and although User Acceptability Testing (UAT) highlighted some areas that required modification such as use of language and assessment generation issues, these was fully resolved prior to the launch of the CCSAT on the IIOP website, where it links to the ePortfolio function. Pharmapod delivered an online tool, which can be accessed by pharmacists, using their unique login and password, through the IIOP website. Once an assessment is completed, pharmacists can review the High Priority Competencies identified by the tool, as well as exporting the assessment to their ePortfolio, and maintaining a copy of the assessment for their own records if they wish.

Outcomes

The CCSAT is a unique tool, which provides the opportunity for Irish registered Pharmacists to reflect on their current level of competency in a structured manner, and aids them in engagement with and completion of their CPD.

References;

Pharmacy Education taskforce Global Competency Framework 2012 http://www.fip.org/files/fip/PharmacyEducation/GbCF_v1.pdf

- PSI Core Competency Framework 2013 http://www.thepsi.ie/Libraries/Pharmacy_Practice/PSI_Core_Comp_Framework_Web_Version_Final.sflb.ashx

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The development by the IIOP and Pharmapod, of a face-to-face training programme for superintendent pharmacists

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Introduction

The Irish Institute of Pharmacy ((IOP) in fulfilling its core leadership role of the development of the practice of pharmacy in line with international best practice and evolving health care, commissioned a Face to Face Training Programme for Irish Registered Superintendent Pharmacists.

A summary of the requirements of this programme are as follows;

- Be relevant to the pharmacy profession in the Republic of Ireland and must be suitable for delivery to community pharmacists.
- Programmes must adhere to the Irish CPD model and refer to the Pharmaceutical Society of Ireland's Core Competency Framework for Pharmacists.
- The Provider must have an appropriate quality system in place to ensure that the training programme is effective in achieving the desired learning outcomes for the target audience and that it complies with all required Standards: programme development; professional learning objectives/outcomes; programme content; delivery; assessment; evaluation and quality; resources; governance and management.

Methods

The IIOP utilized a tendering process for the Training Programme for Superintendent Pharmacists; this tender was won by Pharmapod. The tender included a Specification for the training programme which specified requirements for a:

- 2 day live learning component
- An online resource portal
- An ongoing quality system process

Pharmapod delivered the programme, which then was accredited by the IIOP and made available to Superintendent Pharmacists through the IIOP.

Outcomes

It is planned to run this programme 3 times per year, across the country, thus ensuring accessibility as well as enabling the IIOP mission of promoting excellence in the areas of patient care, professional standards, education and research in pharmacy.

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A baseline audit of pharmacist prescribers within the Western Health and Social Care Trust

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Introduction and Method

The DHSSPS within Northern Ireland recommend audit as part of good clinical and social care governance arrangements for non-medical prescribers[1]. The purpose of this project was to gather information for the Western Health and Social Care Trust on several aspects of pharmacist non-medical prescribing.

The pre-registration pharmacist assigned to the South West Acute Hospital (August 13-January 14) designed an audit tool and asked all prescribing pharmacists within the trust to complete this during November 2013.

Results and Conclusion

16 of the 21 pharmacists on the prescribing register completed the audit (76%). Only 9 of these 16 were actively prescribing during the month of the audit (56%). Only 3 of these 9 pharmacists spent more than 50% of their time in direct patient care activities which would allow prescribing to take place. A total of 442 prescribing directions were recorded during the audit. The most common prescribing areas as per BNF chapter were Nutrition and Blood products. There were several reasons suggested why some pharmacists were not currently prescribing.

The audit has produced a baseline of pharmacist prescribing activity within the WHSCT. Reasons why pharmacists aren't using the qualification should be explored together with possible solutions such as developing peer support networks for prescribers within Northern Ireland.

References

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Safety of people with intellectual disabilities in general hospitals in Ireland. The pharmacist can help reduce healthcare inequalities

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Introduction

People with intellectual disabilities are vulnerable in healthcare environments and when admitted to general hospitals are at a greater risk of patient safety incidents. The most significant barriers to safer and better healthcare appear to include 'invisibility' of people with intellectual disabilities within health-care systems. They may be 'invisible' to pharmacists in general hospitals.

Literature Review

People with intellectual disabilities may require support in hospital with eating and drinking, communication, *taking medication*, managing behaviour, reducing stress and anxiety. A Confidential Inquiry in England concluded that there was a need for improved identification of people with intellectual disabilities in healthcare settings and better implementation of reasonable adjustments to avoid their serious disadvantage.[1]

Deficiencies exist in the quality and effectiveness of health care given to people with intellectual disabilities which contributes to premature deaths . There is a need for a series of clear, evidence based actions that used together ensure the vulnerable patients' total safety and care needs are met.[2] Specialist intellectual Disability Liaison Nurses have been identified as being pivotal in helping to break down barriers and improving access to acute healthcare for the population with intellectual disabilities.[3]

Medicines Safety and Management

Medication is the main therapeutic intervention in this population. The complexity of the needs of patients with intellectual disabilities, their multiple medication use and the lack of staff exposure to this group of patients may require *intellectual disability liaison pharmacists* in general hospitals in Ireland. Research is needed to determine the role of pharmacists in reducing health inequalities in this vulnerable population group when they are admitted to general hospitals

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Professional indemnity insurance for pharmacists

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Introduction

I decided to put together a paper specifically for Pharmacists that clearly explains Professional Indemnity Insurance and dispensing risks. With one of the main providers of this type of insurance (Aviva Insurance) no longer providing cover for this risk, I felt that it was an opportune time for Pharmacists to learn about the two types of professional indemnity insurance because the differences between the two types are very important to consider when changing insurance provider.

The first type of Professional Indemnity policy is a policy written on a Claims Occurred Basis. This means that the wrongful act, injury or mistake must occur during the period of the insurance policy, but can be reported to the Insurance Company at any time, even after the policy expires.

The second and most popular type of Professional Indemnity policies is written on a Claims Made Basis. This means that the wrongful act, injury or mistake can happen during or before the policy was incepted. For the benefit of clarity an incident which occurs prior to the date of the policy is covered by this policy if the claim is validly made during the period of cover of the policy.

I explain the meaning of and the importance of a retroactive date to policies written on a claims made basis and provide examples. I talk about tail cover or run-off cover and what happens in the event of the Pharmacists retiring or selling the business.

Finally, I briefly outline legal expenses insurance and why it is complementary to professional indemnity insurance.

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A survey of user satisfaction with the medicines information service in an acute Irish hospital

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Introduction

Since the 1990s, the Pharmacy Department at St. Vincent's University Hospital (SVUH) has provided a Medicines Information (MI) Service to all healthcare professionals working within the organisation. Enquiry answering and provision of accurate, independent, evidence-based information forms a large part of the MI service delivered to users. On average, the MI Service answers 1,300 queries per year. The majority of queries are classified as 'choice of therapy/indications/contraindications', 'administration/dosage' and 'adverse effects'. 78% of queries are answered within 4 hours[1]. In addition, the MI Service supports the Drugs and Therapeutics Committee, works closely with Medicines Safety, Formulary Development and publishes a quarterly online newsletter.

It is important to audit our MI service to ensure progress in terms of service delivery, and it has been some time since our previous review. A survey was undertaken to obtain enquirers' opinions of the service provided, and determine if current practice meets the expectations of its users.

Methodology

A validated UKMi user survey was used to obtain enquirers' opinions of the MI service[2]. The survey was undertaken as part of the M.Sc. in Hospital Pharmacy rotation in Medicines Information. Enquiries were assessed under the following categories: 1 Summary of enquiry details; 2 Response from Medicines Information; 3 Outcome; 4 Overall rating of service

August 2014 was chosen as the time period from which enquirers would be surveyed. During this month, 109 queries from nursing, medical, allied professionals, pharmacy staff, as well as community pharmacists and other hospitals were received. Enquirers who had left the hospital and pharmacists working in the MI Service were excluded from the study. In total, seventy one survey forms were sent to enquirers, with some enquirers receiving more than one survey form as they had used the MI service more than once during the survey month. A hardcopy of the survey was sent to all enquirers during September 2014.

Results

Results of the survey will be presented in poster format at the conference.

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Improving quality in Northern Ireland community pharmacy stop smoking service

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Introduction

In Northern Ireland (NI) Stop Smoking Services are commissioned regionally and delivered through specialist providers in a range of settings. All providers of the Stop Smoking Service are required to comply with 18 quality standards described in the NI Quality Standards for Delivery of Specialist Stop Smoking Services, produced by the Public Health Agency (PHA) and HSCB. All services are expected to aim for at least a quit rate of 45-50% at four weeks. Services who have quit rates of less than 35% will be subject to review by the PHA/HSCB.

Methodology

In 2011/12, a quality improvement programme was piloted with the main service provider (Community Pharmacy, n=445). In total 16% of all pharmacies (n=69) were identified as having a quit rate of less than 35% and were, therefore, included in the quality improvement programme. Pharmacies were provided with an online tool to self-monitor overall service fidelity against Quality Standards requirements, offered cessation service update training, provided with on-going support letters and opportunities to discuss their service on a one to one basis with a qualified health specialist over the course of a year.

Results

The proportion of pharmacies demonstrating 4 week quit rates of under 35% declined from 16% (2011/12) to 7% (2012/13) using self- report data, or from 47% to 34% using Carbon monoxide (CO) validated data. The average CO validated 4 week quit rate of all pharmacy providers increased from 36.3 % (2011/12) to 42.4% (2012/13). In contrast, other provider types did not show this increase.

Discussion

The results demonstrate that use of a quality improvement methodology as described above can improve the quality of service provision and to improve outcome for clients availing of the Stop Smoking Service.

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eHealth implementation in hospitals – how difficult can it be?

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Background and Objective
Systems for electronic prescribing, dispensing and administration of medicines have the potential to significantly increase patient safety by reducing medication errors. A systematic review (SR) was carried out to identify healthcare professionals' perceptions towards system implementation in hospitals.

Setting and Method
A SR protocol was registered with the international prospective register of systematic reviews (PROSPERO). MEDLINE, CINAHL, IPA, PsycARTICLES, PsycINFO, The Cochrane Library and the CRD were searched up to August 2013. Searches were limited to the English language. Grey literature and the references of included studies were further examined. All studies that focused on clinicians, nurses and allied healthcare professionals and technologies for prescribing, dispensing and administration of medicines in the hospital setting were included. Initial independent, duplicate screening of titles, abstracts, and full texts was performed by SR team members. Data extraction of each included study was undertaken using a standard data extraction form. Studies were critically appraised using standardised tools.Synthesis of the findings from each of the included studies was carried out and a narrative summary of healthcare professionals' perceptions of key facilitators and barriers formulated.

Results & Conclusion
The search identified 2566 titles. Screening of title, abstract and full texts resulted in the inclusion of five papers. Reasons for exclusion were: duplicate publication, non-hospital setting, no focus on implementation processes, and a lack of investigation of healthcare professionals' perceptions. Included studies used qualitative interview methods and were conducted in the USA, Australia and Sweden. Results demonstrate that healthcare professionals perceived that increased patient safety, better access to patients' drug history, effective leadership and equipment availability and reliability can facilitate the successful implementation of electronic prescribing, dispensing and administration of medicines. Perceptions of barriers that hinder implementation include: technical problems in use such as being automatically logged out of the system and failure in information saving as well as network and hardware problems, altered work practices and diminished interpersonal communication.

There is a need to investigate this area further given the importance of such systems in improving patient safety and the fact that few studies have been conducted in Europe. Future work, such as in-depth case studies, could help further explore facilitators and barriers and enable the successful implementation of electronic systems in hospitals.

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Supporting the introduction of MURs in N. Ireland through blended learning

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Introduction

To improve the effectiveness of medicines in N. Ireland and reduce medicines wastage, the Health and Social Care Board (HSCB) planned to introduce pharmacy-led medicines use reviews (MURs) beginning in April 2013. A MUR is a concordance and compliance review conducted in partnership with the patient that enables pharmacists to explore the patient's medicines-taking behaviour and their beliefs about their medicines. In the first instance, MURs were to be specifically targeted to those patients with asthma and COPD. To support the introduction of this new service into community pharmacy, NICPLD were asked to develop educational resources.

Method

A blended learning approach, consisting of both elearning and face-to-face learning was adopted to support the learner group. The elearning focused on introducing community pharmacists to MURs and explaining how they would undertake a MUR in practice. As the MURs were to be targeted on the therapeutic areas of asthma and COPD, the live workshop focused on the development of the therapeutic knowledge that would be required to deliver the MUR service to these patient groups. This included an understanding of the pathophysiology of both asthma and COPD and the appropriate management of the conditions. As many drugs used in the management of respiratory conditions are delivered via inhaler devices, the live workshop also focused on the appropriate use of a range of inhaler devices.

Results

From 1/03/13 – 30/06/13 a total of 786 pharmacists completed the online course whilst a total of 840 pharmacists attended the live training events. The live training events were well received with 92.7% rating the course as $\geq$7 on a Likert scale ranging from 1-9. Over 96.0% of participants rated the quality of the course content as very good or good whilst 95.9% stated that the course was completely or mostly relevant to their practice. The elearning was completed by 786 pharmacists and was similarly well received with 91.0% rating the course as $\geq$7 on a Likert scale ranging from 1-9. The quality of the course content was rated by 96.0% of learners as very good or good whilst 96.0% stated that the course was completely or mostly relevant to their practice.

Discussion

The use of a blended learning approach resulted in a large number of pharmacists across N. Ireland accessing this learning resource and developing the knowledge required to deliver a MUR service to patients with asthma and COPD. This has resulted in 85% of community pharmacy contractors delivering the service, resulting in 25,660 initial MUR consultations in N. Ireland from April 2013 – June 2014.

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What do fourth year MPharm students think of clinical pharmacist teaching during experiential placements?

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Background

Hospital pharmacy experiential placements within the MPHarm illuminate complex subjects via the management of real patient cases and to help to student integration of knowledge into practise. The aim of the clinical placement programme is to provide students with the opportunity to contexualise their learning from the University setting and to improve their ability to practice pharmaceutical care on graduation. The 'pharmacist tutor' has an essential role in ensuring that students complete their placement equipped with the relevant knowledge and skills.

Aim

To establish Level 4 pharmacy students' opinions on the quality of clinical teaching provided by pharmacist tutors during their fourth year hospital placement.

Method

All final year (fourth year) undergraduate pharmacy students (n=134) were invited to complete a pre-piloted, ethically approved questionnaire via email. It consisted of 21 questions which examined student perceptions of the quality of clinical teaching during their recent experiential placement in hospital. Data was analysed using SPSS. Descriptive statistics were used and chi square where appropriate with a significance level of $p = <0.05$. Free-text comments were analysed via thematic analysis.

Results and discussion

Ninety-two questionnaires were completed (68.7%). A statistically significant association was found between the quality of clinical teaching in all contexts of patient contact: when taking a medication history ($p=0.048$), the pharmaceutical care plan ($p=0.05$), and audit project ($p=0.004$). Over 67% of the sample reported that their confidence in drug knowledge and proficiency in clinical skills had improved by the end of the hospital placement. Over 84% of the students rated each of the tutor characteristics as 'good' or 'very good.' Respondents who rated quality of clinical teaching highly were more likely to indicate that they had received sufficient feedback from their pharmacist tutor ($p=0.002$), that it was timely ($p=0.001$), and that it helped improve OSCE performance ($p=0.001$). Key themes of professional socialisation and contextualisation of knowledge were identified from free-text comments.

Conclusion

The results of this study suggest that students valued the support provided by the pharmacist tutor in hospital specifically in relation to the improvement in their confidence in drug knowledge, proficiency in skills post placement, as well as professional socialisation.

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Continued development of a pharmacist-led education programme for final year medical students on safe use of medicines

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Aim

To explore how pharmacist-led education on safe use of medicines for final year medical students may be enhanced and improved.

Objectives

To appraise newly qualified doctors' perceptions of how undergraduate teaching has prepared them for prescribing and using medicines. To investigate topics and teaching methods which could be considered for inclusion in future education programmes within the medical assistantship in SEHSCT.

Method

An exploratory case study was carried out using two focus groups and two one-to-one interviews. In total, fourteen Foundation Year One doctors in the Ulster Hospital, SEHSCT, participated in discussions moderated by a pharmacist. Topics included: prescribing thought processes, preparedness for prescribing, prescribing resources, and experiences of teaching and assessment. Thematic analysis was applied[1].

Results

Four linked themes were identified: preparedness for prescribing, learning opportunities, development of a prescribing strategy, and the hidden curriculum.

Conclusion

Newly qualified doctors are not prepared for prescribing, though confidence develops quickly via experiential learning. The hidden curriculum influences prescribing behaviours and doctors need positive role models for prescribing. Pharmacist-led teaching for final year medical students is valuable and should focus on high risk medicines use and practical prescribing, employing bedside teaching. Pharmacists in the five Northern Ireland Trusts should collaborate to develop a common programme.

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Empathetic ability of pharmacy students

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Introduction

Empathy may improve patient satisfaction, contribute to optimal clinical outcomes and prevent possible harm that can result from unsuccessful communication.[1] Empathy is an essential part of professional competence and an important attribute of professionalism[2] and is therefore a skill which must first be fostered during initial training. This study sought to investigate whether factors such as gender, pharmacy year, part-time employment and health status affected empathetic ability.

Method

Following ethical approval and piloting**,** all undergraduate pharmacy students enrolled in the degree programme at Queen's University Belfast were invited via email to complete an electronic questionnaire consisting of the validated Jefferson Scale of Empathy-Healthcare Professional Students instrument (n=20 questions)[3] and non-identifiable demographic questions (n=4 questions). Kruskall-Wallis and Mann-Whitney U were used for comparisons of empathy scores; higher scores represented a greater degree of empathy.

Results

A response rate of 60.1% (318/529) was obtained**.** The mean empathy score was 106.19 (possible score range was 20-140). The mean score for females (106.71) was slightly higher than that for males (104.96) although there was no significant difference between genders ($p=0.211$). There was a significant difference ($p<0.001$) between pharmacy years with empathy scores being greatest at higher levels of the course. There were no significant differences in empathy for respondents who had a part-time job, a chronic condition, or took regular medication in comparison to those respondents who did not ($p=0.118$, $p=0.880$, $p=0.456$, respectively).

Conclusion

A reasonable level of empathy was found among the undergraduate pharmacy students, however this could be further enhanced by using targeted education strategies with a particular focus at the lower levels of the degree. Qualitative research could be conducted to further explore personal health status and empathetic ability.

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Pharmacy students and professionalism

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Introduction

A *code of conduct* and *fitness to practise* became relevant to UK undergraduate pharmacy students four years ago.[1] We aimed to ascertain students' attitudes and usage of alcohol and social networking sites, in light of this and the growing emphasis placed on professionalism within pharmacy.

Method

Following ethical approval and piloting, questionnaire studies were conducted with pharmacy students at Queen's University Belfast. All undergraduate students were invited via email to participate. Methods used to maximise the response rate included sending reminder emails. Data analysis took place in SPSS; Chi-squared and Mann-Whitney *U*-test were used to determine associations with $p<0.05$ set as significant.

Results

Response rates of 64.5% (375/581) and 66.2% (377/569) were obtained for the alcohol and social networking questionnaires, respectively. With regard to alcohol and having a professional attitude towards their studies, 77% (289/375) of student respondents considered that they had been made sufficiently aware of the professional behaviour expected of them with regard to alcohol. However, 90.4% of the 292 alcohol-users stated they had been drunk since starting the degree and 68.8% reported binge drinking[2] on at least one day of the week. Students who drank alcohol were more likely (than abstainers) to have failed one or more modules [30.5% (89/292) vs 19.3% (16/83); $p=0.045$]. In relation to social networking, 71.1% (268/377) of student respondents agreed that they had been made sufficiently aware of the professional behaviour expected of them when using social networking sites. However, over two-thirds of the 346 users stated that that if members of the public were to view their current social networking activities, the reputation of pharmacy students would be adversely affected. Some respondents (13.8%) considered that if privacy settings were properly configured, you could publish whatever you wanted.

Conclusion

It seems the respondents consider themselves primarily as students rather than as future pharmacists bound by a professional code. However, we appreciate that our results may not be generalisable. Further work could be done with students from non-healthcare disciplines to enable comparisons to be drawn.

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Clinical applications of photodynamic therapy – literature review

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Introduction

Photodynamic therapy (PDT) is used for treatment on Non-Melanoma Skin Cancer (NMSC) such as Aktinic Keratosis (AK)[1]. The photosensitizing agent is applied to the skin and light excites the molecular oxygen present to form a singlet oxygen species[2] which is cytotoxic to specific cells after accumulation there[1].The purpose of this review was to establish the extent of PDT use in the United Kingdom, where it sits in the hierarchy of treatment options and to ascertain the views of the practitioners and patients that undertake and undergo the therapy respectively.

Methods

A search strategy was devised to ascertain the extent of PDT use in NMSC, how it was funded, and the opinions of those involved. Searches were originally run in six databases (Scopus, Medline, Embase, Amed, Pubmed and Web of Science). Each search contained the wPord 'photodynamic' and was linked with a Boolean 'AND' to another word commensurate with the topic. Initially the search included the key words throughout the text but if this produced overwhelmingly numerous results, it was rerun with the search terms limited to the title. Papers were de-duplicated and included if in the English language and free-full text available.

Results

A total of 16 searches were included. Four were for clinical guidance, seven for practitioner attitude, one for patient experience and four for funding. This yielded 21 papers for clinical guidance, 22 for funding, 18 for clinician attitudes and 2 for patient experience. No clinical guidelines are published by the National Institute for Health and Care Excellence (NICE) for the treatment of NMSC by PDT, only an evaluation of the procedure. Any guidelines that were found in the search were a review of available evidence on treatment options. Two papers were found on using a decision tree model to select therapy but not why a therapy would be chosen. The funding search yielded mainly an assessment of the cost effectiveness of the modality and not why it would be funded. Patient experience had only two results. Both employed interviews of patients as the technique but were limited in their scope as one focused on pain when treating for AK and the other was for palliative PDT.

Discussion

The data showed that there are no clinical guidelines issued by NICE for the use of PDT and NICE states that funding decisions are taken by local NHS bodies. More information is required on this topic as the search yielded mainly an assessment of the cost effectiveness of PDT and not why it would be chosen. Clinicians and patient's attitudes are not well documented.

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Feasibility evaluation of an electronic method for documentation of clinical pharmacy interventions and activities in secondary care

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Introduction

The positive contribution and role of the clinical pharmacist in secondary care is well established in the UK[1]. The issue of how to effectively benchmark clinical pharmacy services in Northern Ireland (NI) has been debated for a number of years. Existing local paper-based documentation methods could not provide the data required so an alternative computer-based system, 'Electronic Pharmacist Intervention Clinical System' (epics©), was selected for evaluation to try to standardize reporting.

Objective

To evaluate the feasibility of using epics© in terms of characteristics and range of data collected, and the clinical significance of interventions on patient outcome.

Method

The setting was the Ulster Hospital. Quantitative intervention and workload activity data was collected for clinical pharmacy services provided to the Coronary Care Unit. The software developer provided training, and epics© was trialled during January 2014. Data was collected daily by the principal researcher (JP) using epics© for a two month period (February–March 2014). Each intervention was assigned a clinical significance grade, based on the Eadon scale[2], to provide qualitative data on patient outcome. Ethical approval was deemed not required as it was a service evaluation.

Key Findings

During the 2 month period 1508 interventions were documented. Analysis of the characteristics and range of the data showed that most interventions occurred at the admission(n=826) or discharge(n=424) stage with drug history(n=222) and medicines reconciliation at discharge(n=138) being most common, respectively. Other interventions included: kardex review(n=158); Lab test reviewed(n=189); patient education(n=79); lab test required(n=67), and missing frequency(n=39). In terms of clinical significance, the majority (70%) were graded as having improved patient care. Epics© showed that 84% of time was spent on patient-focussed work activities.

Conclusion

The epics© software enabled the daily collection of clinical pharmacy intervention and workload activity data. It has provided an extensive database of quantitative and qualitative information and has the potential to meet the local and regional demands for clinical pharmacy data. Epics© is not integrated with all other systems and in the future any pharmacy software should, ideally, be part of a single patient record.

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Views and experiences of clinical pharmacists on an electronic method for documentation of clinical pharmacy activities in secondary care

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Introduction

Documentation methods to demonstrate effectiveness of clinical pharmacy services are mainly paper-based, localised and disparate[1]. In 2014 a computer-based documentation system, 'Electronic Pharmacist Intervention Clinical System' (epics©), was selected by the Ulster Hospital for evaluation. The aim of this project was to evaluate the views and experiences of clinical pharmacists using epics©.

Method

The setting was the Ulster Hospital. All 26 clinical pharmacists received epics© training and then used epics© for data collection during January-March 2014. A draft survey questionnaire was designed by the project team and was reviewed by four senior pharmacists. It included nine statements focussing on views on training, user friendliness, future uses, and experiences on ease of use in practice. Respondents used a Likert scale (1-5, agree/neither/disagree) to indicate level of agreement with each of the statements and had an opportunity for free text comments. The finalised version was circulated by the Trust e-mail in May 2014. Responses were anonymous and allocated sequential ID number prior to entry on an excel spreadsheet.

Key Findings

A total of 92%(24/26) responded. Analysis of the responses to each statement showed that most pharmacists agreed with the level of training provided(n=19/26) but did not always find epics© to be user-friendly(n=14/26). The worst scoring was received for practical aspects particularly lack of computer access on the ward (n=19/26) and time spent entering data resulting in less time for patient-focussed activities(n=19/26). The future uses received more mixed responses with most recognising epics© potential as a communication tool if data was entered in 'real-time'(n=16/26) but unsure about the use of data for identification of learning needs or appraisal purposes. The comments tended to elaborate on negative aspects.

Conclusion

Clinical pharmacist users of epics© found that generally it was an effective method for collection of clinical pharmacy activity data. However the reservations expressed in this survey will need to be addressed before electronic documentation with epics© is accepted as an integral part of daily clinical pharmacy activities. The study was limited by small sample size and being localised but still offers valuable information to facilitate service development and implementation of epics© in other hospitals.

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Implementation of a new pharmacist and technician team in the medical admissions unit

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Introduction

The National Institute for Health and Care Excellence (NICE)/ National Patient Safety Agency (NPSA) [1] guidance on medicines reconciliation states that all hospitals should ensure that every admitted patient's medicines are reconciled within 24 hours of admission. The National Prescribing centre (NPC)[2] has produced a guide to medicines reconciliation implementation, and the World Health Organisation (WHO) [3] has medicines reconciliation listed as one of its high 5 profile initiatives. Medicines reconciliation is only one of the numerous tasks a clinical pharmacist has to carry out for admitted patients. It is a necessary and essential process and undoubtedly the foundation of the patient journey. However the initial drug history taking process can be quite time consuming particularly after a weekend when the medical admissions unit (MAU) has close to all new admissions. This restricts the clinical pharmacists time and therefore work has to be prioritised.

In our MAU we decided to implement and audit an enhanced pharmacy service delivered to the MAU using a pharmacist and technician team. A novel initiative has demonstrated that having a trained pharmacy technician to complete the initial drug history taking process, enhances clinical pharmacist time and enables them to concentrate more on other duties. The Medical admissions unit has a wide range of admission types including surgical, medical and complex diabetic patients. The clinical pharmacists' input is challenging, so enhanced time for clinical input is productive and rewarding. One of the biggest influences of clinical pharmacist intervention is medication review, and is particularly beneficial to the patient as it impacts at every interface of care during a patients' admission and at discharge.

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Establishment of a multidisciplinary led, non-medical prescribing systemic anti-cancer clinic (SACT)

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Introduction

The unit operates with once weekly visiting consultant oncologists. With increasing patient numbers and fixed time period available, resulting problems have been: the unit operating over capacity; increased pressure on staff; at risk of breaching national cancer access targets; and increased patient waiting times. Guidance (2006) on pharmacist independent prescribers states that "non- medical prescribers (NMPs) can improve patient care without compromising patient safety by making it easier for patients to get the medicines they need and allowing more flexible team working across the NHS" [1]. This would be a natural extension of the oncology pharmacist role being of "benefit to medical prescribers by easing some of the burden of routine prescribing/ patient care and ensuring services are responsive to patient's needs".[2] The aim of this work was to utilise skill mix within the multidisciplinary team to increase capacity, improve patient care, and enhance the cancer patient journey.

Method

Process mapping, a focus group and SWOT analysis highlighted the unused resource of the pharmacist independent prescriber (IP). Protocols (addressing risk management and clinical governance) for a parallel pharmacist IP clinic treating patients receiving capecitabine for colorectal/pancreatic cancers were developed and implemented. Newly created roles and expanded responsibilities aimed to re-distribution workload whilst ensuring no increase in overall workload. Impact of the clinic was examined via: reassessment of capacity based patient scheduling; patient waiting times; clinic operating times; patient satisfaction with the new service.

Results

Oncologist chemotherapy clinic continued running to schedule; overall waiting times reduced. Oral chemotherapy patient wait times from appointment arrival to receiving treatment dropped from an average of 1.5 hours to 30 minutes, an approximate 70% reduction. Capacity within the oncologist chemotherapy clinic increased by about 15%. All patients attending the IP clinic were happy with the service provided.

Conclusion

The NMP oncology pharmacist regularly undertaking mid cycle reviews of patients receiving anticancer medicines, when the patient does not require medical review, has increased flexibility of chemotherapy services and helped manage workload. A multidisciplinary approach increased strengths, skills, and opportunities available to expand patient care and has expanded to cover selected IV chemotherapy.

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Assessment of the knowledge of hospital pharmacists within northern trust with regards to acute kidney injury (AKI)

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Introduction

Following an enquiry into patients who died as a result of AKI, the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) recommended that there should be robust assessment of contributory risk factors and an awareness of the possible complications that may arise for patients who develop AKI [1].

Aim

To identify the knowledge of hospital pharmacists within Northern Trust with regards to acute kidney injury to highlight where awareness can be improved and to use this as a guide for future education on AKI.

Method

Fifty-three hospital pharmacists working within Northern Trust were e-mailed a questionnaire based on a survey previously carried out by the Renal Pharmacy Group: AKI working group. The questionnaires were completed and returned during June and July 2014.

Results

Nineteen questionnaires were returned from hospital pharmacists working in Northern Trust (36% response rate). The largest group to respond were pharmacists with 3-5 years of experience (42%).

All of the pharmacists were able to correctly identify AKI as a rapid loss of kidney function developing over hours to days, but the AKIN stages of AKI were poorly recognised. The majority of pharmacists identified five out of eight risk factors associated with AKI. Most of the common causes of AKI were correctly identified, but only 32% of pharmacists identified rhabdomyolysis as a common cause of AKI. Eight of the factors to be monitored during AKI were correctly identified, but fewer pharmacists indicated the three other monitoring factors, which included temperature. Only four out of ten commonly prescribed medicines had the correct action described by over approximately 80% of respondents. The most popular learning tools chosen by the respondents were; a distance learning workbook, interactive website or a risk assessment tool.

Conclusion

There are gaps in the pharmacists' AKI knowledge especially in relation to staging of AKI. Further education would also be beneficial in identifying risk factors, common causes, monitoring and how to manage medicines for patients with AKI.

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The implementation of a medicines use review service in Northern Ireland

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Background

In December 2011, the DHSSPS published the 'Transforming Your Care' report. The report made a number of recommendations for the future shape of services in Northern Ireland. In relation to community pharmacy the report made a number of specific recommendations including an enhanced role in medicines management, involvement in the management of long-term conditions and supporting those patients with complex needs. The Medicines Use Review (MUR) service provides a means of improving outcomes for patients by enhancing how medicines are used. Initially the service was targeted towards patients with respiratory conditions, such as asthma and COPD, with diabetes being added as an additional therapy group in July 2014.

Method

The specification and additional guidance for pharmacists providing the service were developed, with clinical input to the design of the service being provided by the Respiratory Regional Expert Group. Training, to support implementation, was commissioned from the Northern Ireland Centre for Pharmacy Learning & Development (NICPLD). As part of the service specification pharmacists are required to maintain a specific data set for each patient and to submit monthly monitoring information to the HSCB. Analysis of this has provided information on the uptake of the service and outcome of the MURs undertaken.

Results

93% of community pharmacies are contracted to provide the service (500/535) with 90% (453/500) delivering some level of activity. To the end of June 2014, 25660 initial MURs have been provided with a follow-up MUR being delivered to 9% of patients. Matters were identified during 67% of MURs with 14% of patients being referred to their GP or other healthcare professional. In 49% of cases the MUR consultation provided an opportunity for the pharmacist to provide healthy living advice to the patient.

Discussion

Whilst the service was slow to become established it appears that some of the initial barriers to implementation have been resolved and the service is becoming embedded. Further evaluation will be required to assess the quality of service being delivered and the clinical outcomes for patients.

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The role of a pharmacist independent prescriber in a renal ward setting

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Introduction

A pharmacist prescriber not only offers the patient timely access to their medication and contributes to the provision of high quality patient care, but also make better use of the pharmacist's knowledge and skills whilst contributing to the development of the profession[1]. An independent pharmacist prescriber was introduced to the renal ward setting in the hope of stream-lining the prescribing process. This work aimed to evaluate this new role in terms of clinical interventions made and acceptance of these by medical staff.

Method

A study population was drawn from all patients directly admitted to ward 2, Altnagelvin Hospital with chronic kidney disease (CKD) stage 3 and above, or those who had a previous renal transplant. Interventions made by the prescribing pharmacist to patient medication on admission, during hospital stay and on discharge were recorded[1]. Approval rating of changes by three renal consultants was determined; for each intervention consultant approval/non-approval and reasoning were documented. Interventions were broken down into when they occurred during the patient stay to determine the point of greatest impact. These were entered into the Electronic Pharmacist Intervention Collection System (EPICS) and transferred into Microsoft Excel 2010 for analysis.

Results

Fifty renal patients were reviewed by the pharmacist over a 12-week period. Of the 209 interventions recorded, 177 interventions were made on admission, after completion of the patients' drug history. Most frequently recorded interventions were: omitted medication (n=126), occurring inadvertently when patients were clerked in by the junior doctor; and adjustment of timing of medication (n=18). Dialysis dependent patients required the greatest number of interventions (n=121). Acceptance of pharmacist prescribing interventions by the renal consultants was 100%.

Conclusion

The number of interventions made demonstrates need for this service ensuring patients were prescribed the right medication at the right dose and in a timely manner (previously a doctor was required to make alterations which often incurred a lag time). Most interventions occurred during medication reconciliation on admission to hospital demonstrating prescribing is a natural extension of the clinical pharmacist's role. Consultants agreed with all interventions showing the support and confidence they had in the pharmacist. Development of this role not only gives an enhanced pharmacy service, but ensures pharmacists play an integral role in the ward setting.

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Impact of medication review by hospital pharmacist in older patients

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Objective

To determine the impact of medication review by a hospital pharmacist on older patients' medicines, measure the acceptance of those interventions by medical staff and time taken for medication review.

Design

Baseline medication reviews were carried out initially for six weeks without using STOPP/START criteria[1]. Medication reviews were then carried out for six weeks on another group of patients (intervention group) with integration of STOPP/START criteria as a screening tool.

Setting and participants

104 patients aged over 65 years on four or more medications admitted to an acute medical ward in Northern Ireland over three months.

Main outcome measures

- Score applied to each intervention by geriatrician using Eadon scoring system[2].
- Acceptance or non-acceptance of interventions by medical staff.
- Time taken for medication review by hospital pharmacist.

Main results

In the non-intervention group 74.3% of interventions scored 4 (intervention is significant and results in improvement in standard of care). In the intervention group 87% scored 4. Before integration of STOPP/START criteria 87.6% of interventions were accepted. After integration of STOPP/START criteria 79% were accepted. Mean time for medication review before integration of STOPP/START criteria was 20.37 minutes compared to 24.79 minutes with integration of STOPP/START criteria.

Conclusion

There was no difference in the severity of interventions between the pre-intervention and intervention groups. Medication review took longer when using the STOPP/START criteria but would be useful if incorporated into the day to day practice of the pharmacist where time permits. Use of the STOPP/START criteria led to valid interventions and addressed the use of potentially inappropriate medicines and omission of potentially appropriate medicines.

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Prescription-only-medicine to pharmacy (POM-to-P) category-switch medicine: a comparison of previous and recent opinions of Irish community pharmacists concerning levonorgestrel and ulipristal

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Introduction

In 2010 a research survey on the re-classification of medicine sought the participation of Irish community pharmacists.[1] A recent follow-up study was conducted in 2013.[2] The main objectives of both studies were to ascertain their preferred choice of medicine to be made available over-the-counter (OTC), and to enquire about the emergency hormonal contraception (EHC), moieties levonorgestrel and ulipristal.

Method

Questionnaires for both studies were used in data generation. The respondents totalled 100 and 87 respectively, equivalent to a response rate of 12.0% and 10.5% accordingly. Not all questions were answered by every respondent.

Results

The relevant findings were as follows:

- The top 3 medicines selected in the research project accounted for 81% of the respondents compared with 73% in the recent follow-up study.
- Over 93% of respondents were in favour of levonorgestrel as a P medicine contributing favourably to Irish healthcare practice, thereby benefiting Irish society generally.
- Over 59% of respondents were in favour of ulipristal being switched to a P medicine, with the remainder split relatively equally between those against and those who did not know either way.

Discussion

Reasoned inferences and suggestions derived from the data and timing of the studies include the following:

- The majority of Irish community pharmacists want ulipristal in their arsenal suggesting that they would readily supply this moiety in favour of levonorgestrel due to an awareness of the difference in efficacy between the two moieties.
- Irish community pharmacists are eager to show that they are capable of taking full responsibility for the safe supply of medicines with complicated drug interactions.

Conclusion

It can be concluded that the majority of Irish community pharmacists wish to have ulipristal available for them to supply as a P medicine, despite the previous switching of levonorgestrel from a POM-to-P in 2011.

References

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