

9th All Ireland Pharmacy Healthcare Conference

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Ballymascanlon House Hotel
Dundalk

Conference Proceedings



Conference keynote address

Delivering the WHO Primary Health Care agenda: strategies to meet national care needs through pharmaceutical workforce transformation

Dr Catherine Duggan, CEO, International Pharmaceutical Federation



Dr Duggan is Chief Executive Officer of the International Pharmaceutical Federation, a role she took up the role in The Hague in June 2018. Catherine is responsible for visionary leadership, support, development and advocacy across the 144 member organisations and the four million members FIP represents. She is responsible for developing and delivery the strategy, planning and working across global organisations such as WHO and UN, and other international professional groups. Catherine will chair the World Professions Health Alliance which represents 31 million health professionals across medicine, nursing, dentistry, physiotherapy and pharmacy.

Upon taking up the role, Catherine was awarded an honorary Professorship from the School of Pharmacy, University of Nottingham. She has been awarded Fellowships of both the RPS and the UCL School of Pharmacy and is a Fellow of the Royal Society of Arts.

Until April 2018, Dr Catherine Duggan was the Director of Professional Development at the Royal Pharmaceutical Society of Great Britain, where she was responsible for the delivery of professional advice and support to all members across all sectors; the development of strategies to share and showcase good practice across the profession and development and implementation of professional standards for pharmacy. From 2012, Catherine led the development, implementation and strategic embedding of RPS Faculty and Foundation programmes into continuing professional development.

Dr Duggan has published widely and presented at national and international meetings and has a wealth of people and programme management experience. She is a recognised leader across the profession working with many networks within and across the profession and, more widely, health and business. Catherine has worked in community, primary care, hospital and academia. Between 2007 and 2009, Catherine was the Chair of the United Kingdom Clinical Pharmacy Association and then an elected member of the Council of the RPSGB. Catherine is an avid film lover, enjoys singing and travelling, fine wine and dining, sports and dancing

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9th All Ireland Pharmacy Healthcare Conference

8.30 – 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: <i>Delivering the WHO Primary Health Care agenda: strategies to meet national care needs through pharmaceutical workforce transformation</i> Dr Catherine Duggan, CEO, International Pharmaceutical Federation
11.15 -11.45	Coffee and poster viewing
11.45 -13.15	Parallel sessions - Advanced practice and specialisation - Working with others
13.15 - 14.00	LUNCH
14.00 – 14.45	Coffee and poster viewing
14.45 – 16.15	Parallel sessions - Competency development - Workforce impact
16.15 – 16.30	Closing remarks Cathy Harrison Acting Chief Pharmaceutical Officer Department of Health, Northern Ireland

Oral presentations: Advanced practice & specialisation (FIP Goal 4)

Time: 11.45am – 1.15pm

Location: The Garden Room

Chair: Glenda Fleming

Author	Title
Anita Lawther	Are pharmacist written discharge prescriptions making a difference?
Bronagh White	Evaluation of patient views of medicine use review (MUR) in community pharmacies within Northern Ireland
Clare Kinahan	Addressing polypharmacy in the frail older person: the wide review
Cliona Hayden	Assessment of nurses' opinions on the introduction of a ward based pharmaceutical technician (WBPT) service
Judith Strawbridge	Mixed methods research exploring the implementation of the prescribing safety assessment in pharmacy education in Ireland
Susan Patterson	Healthy legs project; improving appropriate use of compression hosiery in the community

Are Pharmacist Written Discharge Prescriptions Making a Difference?

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Introduction

In the Ulster Hospital, Pharmacist Independent Prescribers (PIPs) are writing discharge letters in 3 wards across the medical directorate namely a Respiratory ward, a GI ward and a Medical Admissions ward. In order to obtain feedback on the work being done by the PIPs a questionnaire was drawn up to survey the medical, nursing and pharmacy staff who work alongside the PIPs to determine the value added to patient care.

Aim

With Outcome Based Accountability in mind the aim of this study was to evaluate the service by PIPs. The questionnaire aimed to ascertain the qualitative aspects of the PIP led discharge such as perception of adding value to patient care, aiding patient flow, improving patient safety and quality of the discharge prescriptions written. This was also an opportunity for staff to feedback on their views of the PIP led discharge service.

Results

60 questionnaires were distributed. Overall 100% respondents were aware that there was a PIP on their ward available to write discharge prescriptions. Over 90% respondents strongly agreed that PIPs coming on the ward round adds value, helps with patient flow, enhances patient safety. 50% of respondents felt the quality of the discharge prescriptions were the same as those written by medical staff, with the other 50% stating that the quality was better to much better than those written by junior medical staff. 100% of respondents strongly agreed that they would support the roll out of the service to other wards. Senior medical staff felt that there were less queries arising from primary care post patient discharge. Junior medical staff and pharmacists felt that it was too soon to tell. Comments added to the questionnaire were highly positive in support of the service. One Junior Doctor said 'The PIP is honestly indispensable freeing me up to see sick patient and ultimately improves patient care on this ward.'

Conclusion

In order to be accountable for the initial investment the results were shared with operational managers in order to justify the project and support expansion of the service to other clinical areas. The results from the questionnaire displayed overwhelming support for the PIP writing discharge letters.

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Evaluation of Patient Views of Medicine Use Review (MUR) in community pharmacies within Northern Ireland.

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Introduction

The Medicines Use Review (MUR) service focuses on medication adherence with the overall aim dedicated to improving patient knowledge of prescribed medication. Although some studies reported that MURs have positive impact on patients¹, questions arise about the extent of impact on patients who receive them. One in three people globally are estimated to suffer with multiple chronic conditions. The increasing prevalence in chronic conditions results in an increase in polypharmacy, which can contribute to poor compliance of complex regimes^{3,4}. Pharmacist and patient perception of this service and the outcomes of patient referral by the pharmacist to General Practitioner (GP) following the MUR need to be explored in order to establish the impact MURs have on patients.

Methodology

A minimum sample size of 374 MUR records was obtained from pharmacists completing a MUR with patients diagnosed with a respiratory condition or diabetes aged >18 years or <80 years. A data collection tool was developed from the literature in order to collate data from the MUR consultation form completed by the pharmacist. The data collected was analysed using SPSS to determine the pharmacists opinion on the impact of MURs to minimise medication related problems and increase adherence. A questionnaire was developed and sent to patients who were identified through HSCB monitoring data as having a MUR completed in their community pharmacy. An audit tool was developed to determine the outcomes and appropriateness of MUR referrals to the GP.

Results

Results revealed that pharmacists reported patient knowledge, adherence, and use of medicines improved following completion of the MUR. Non-adherence and poor inhaler technique were the main reason for follow up MURs being arranged. The number of respondents to was 66. Most participants (77%) hoped that the MUR would check if they were using their medication as prescribed and received advice that helped them understand what condition the medicine has been prescribed for, why the medicine has been prescribed, how and when to take their medicine. Almost all participants (88%) were either very satisfied or satisfied with the service and the majority of patients (91%) would recommend the service to family.

Conclusion

It can be interpreted that the MUR service is of value to patients due to the number of patients that reported a better understanding in medicine use and the majority of patients who stated that they would recommend the service to others.

References

1. Youssef S, Hussain S, Upton D. (2010). Do patients perceive any benefit from medicines use reviews offered to them in community pharmacies. *The Pharmaceutical Journal*. 284, 165-166.
2. Hajat, C., & Stein, E. (2018). The global burden of multiple chronic conditions: A narrative review. *Preventive medicine reports*, 12, 284–293. doi:10.1016/j.pmedr.2018.10.008
3. Kenning C, Protheroe J, Gray N, Ashcroft D, Bower, P. (2015). The potential for using a Universal Medication Schedule (UMS) to improve adherence in patients taking multiple medications in the UK: a qualitative evaluation, *BMC Health Services Research*, 15.
4. Molokhia, M., & Majeed, A. (2017). Current and future perspectives on the management of polypharmacy. *BMC family practice*, 18(1), 70.

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Addressing Polypharmacy in the Frail Older Person: The WIDE Review

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Introduction

People are living longer, with more chronic conditions and are prescribed more medications according to disease specific guidelines. The WIDE Review is an innovative model of comprehensive medication review devised to treat the whole patient. Frail patients are twice as likely to be prescribed inappropriate medications¹ and are more vulnerable to their harmful effects. Use of the STOPP/START criteria and the Medication Appropriateness Index (MAI) have been shown to improve patient outcomes. This study examined the impact and cost effectiveness of pharmacist led WIDE Reviews.

Methods

This quantitative prospective cohort study was conducted over 8 weeks in a Model 3 hospital. Inclusion criteria: inpatients age > 65 years; prescribed > 6 regular medications and screened positive for frailty (PRISMA 7 score >3). Critically ill patients were excluded. Eligible patients were randomly allocated to intervention or control group. The intervention group received a pharmacist led WIDE Review: **W**holistic (establishing patients' priorities), **I**ntegrated (collaborating with primary care providers), **D**eprescribing (to improve patient outcomes) **E**valuation (of the harms versus benefits of each medication). Medications were screened using the STOPP/START criteria and the MAI was calculated. In conjunction with the patients and their consultants, deprescribing plans were devised and communicated to their GPs and community pharmacists.

Results

A total of 20 intervention and 20 control group patients were enrolled. Patient characteristics (age, sex and length of stay) were similar for both groups. 65% of STOPP and 62% of START criteria were addressed in the intervention group versus 12% and 5% respectively in the control group. In the intervention group 83 medications were stopped, 23 dose reduced and the total MAI score was reduced by 64%. Cost savings to the annual drug budget alone represented a 9:1 return on investment of hospital pharmacist time.

Conclusion

Pharmacists performing WIDE Reviews significantly improved medication appropriateness and realised compelling cost savings. A larger scale study of this innovative approach to medication review is planned.

References

1. Cullinan S, O'Mahony D, O'Sullivan D, Byrne S. Use of a frailty index to identify potentially inappropriate prescribing. *Age Ageing*. 2016 Jan;45(1):115-20.

Correspondence

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Mixed methods research exploring the implementation of the Prescribing Safety Assessment in pharmacy education in Ireland

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Introduction

The Prescribing Safety Assessment (PSA) was introduced to assess the prescribing skills and competencies of final year medical students prior to prescribing in practice. It has been piloted with pharmacist prescribers, undergraduate pharmacy students and pharmacy graduates in the United Kingdom. The aim of this study was to explore the utility of this assessment to inform the possibility of implementing the PSA into pharmacy education in Ireland.

Methods

A mixed methods design, consisting of three phases was adopted. Phase 1 involved semistructured interviews with key clinicians and academics associated with the PSA, recruited via purposive and snowball sampling, to inform Phase 2. In Phase 2, a mock-PSA was undertaken by volunteer 3rd and 4th year undergraduate pharmacy students and pharmacy interns. Phase 3 involved undertaking focus groups with undergraduate pharmacy students exploring their experiences of the mock-PSA.

Findings

Insights from the nine key individuals who were interviewed informed recruitment strategies and compilation of the mock-PSA. Thirty students (30% of the available undergraduate population) and 63 (45%) pharmacy interns volunteered to sit the mock-PSA. Focus groups revealed mixed views, with some expressing concerns that the PSA was not relevant as pharmacists do not prescribe in Ireland. Views that there should be pharmacist prescribing in the future and that the assessment has intrinsic value were also expressed.

Conclusion

Exploring clinicians', academics' and students' perspectives on the PSA provides valuable data which can inform the vision for pharmacist prescribing and develop prescribing education, incorporating the PSA, within the Irish pharmacy context.

Correspondence

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Healthy Legs Project; Improving Appropriate Use of Compression Hosiery in the Community

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Introduction

Referrals to secondary care for management of chronic leg oedema are high and there is a low rate of detection of oedema in primary care that could be treated with compression hosiery to prevent complications. Non-adherence to compression hosiery is common, leading to poorer outcomes of therapy, more risk of problems, and increased waste.

Aims

This pilot service aimed to develop a model of care to improve the management of patients with early signs of oedema as a precursor to venous disease or lymphoedema in primary care through a supported assessment and review process.

Methods

A Trust-employed Chronic Oedema Liaison (COL) therapist was employed to perform a range of functions to enable GP practices to provide Healthy Leg Clinics¹. These included identification of patients with simple oedema, setting up coding and recall systems, triaging of chronic oedema conditions, and developing a Chronic Oedema Pathway for GP referrals. The COL therapist rotated between GP Practices recruited in a Local Commissioning Group (LCG) area. A practice nurse/ pharmacist, initially educated by the COL therapist, assessed and reviewed patients currently in compression hosiery in the longer term. Local GPs and community pharmacists were educated through group education sessions to ensure a successful outcome.

Results

In 150 patients who attended healthy leg clinics in 12 GP practices, 41 prescribing changes were made to optimise compression hosiery. In 31% of patients prescribed diuretics, they were de-prescribed. Targeted education for practice staff identified 101 patients with a new diagnosis of simple oedema. Working in collaboration with practice managers, recall systems were developed to assist with yearly review. Delivery of practical advice to community pharmacists in each area regarding limb measurement and donning aids for compression hosiery complimented the service and reduced GP workload, whilst ensuring the patient received the appropriate sized garment. A seamless service was delivered to the patient, through education and follow up, resulting in improved quality of life reported through patient feedback.

Conclusion

Implementation of the Chronic Oedema Pathway for GPs and development of the healthy legs service resulted in prompt and timely preventative compression hosiery therapy, improved cost-effective management and reduced inappropriate prescribing in patients with simple oedema.

References: 1. Murdoch V. Patient concordance in the management of chronic oedema: the role of the independent prescriber. *Br J Community Nursing* 2019, Chronic Oedema April: S6-S11

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Assessment of nurses opinions on the introduction of a ward based pharmaceutical technician (WBPT) service

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Introduction

There are continuously increasing demands on nursing time and resources in Wexford General Hospital. The expansion of the role of the pharmaceutical technician to support medicines management activities at ward level could support nursing staff, reduce pharmacy workload and optimise the skills and expertise of the pharmaceutical technician.

Aims/Objectives

To introduce a pilot ward based pharmaceutical technician service to a busy medical ward for 6 weeks and to assess the opinions of nursing staff on the service after the 6 week pilot.

Methodology

The questionnaire was developed based on the questionnaire issued by Langham et al¹. The questionnaire was structured to provide qualitative and quantitative data, with five closed-ended questions assessed using a 4-point Likert scale and one open-ended question. The questionnaires were distributed and collected by the Clinical Nurse Manager (CNM). There were 30 nurses eligible to complete the questionnaire and ten responses were received.

Results

The responses from the nursing staff were very positive and indicated a high degree of satisfaction with the service.

- 80% strongly agreed that medication management improved during the pilot.
- 80% strongly agreed that by having the WBPT less nursing time is spent ordering medications and unpacking ward boxes
- 70% strongly agreed that the pharmacy service has reduced the number of missed drug doses. One respondent disagreed.
- 60% strongly agreed and 40% agreed that they had more medications necessary to complete drug rounds.
- 90% agreed that they would like to see the WBPT service continue.

Conclusions

The WBPT improves ward medication management by improving stock management, availability of required medications and reducing nursing time spent on ordering and unpacking medications. Nursing and Pharmacy staff noticed an improvement in communication between the ward and the pharmacy during the pilot. Further research is needed to prove cost efficiency and reduction in pharmacy workload.

References

1) Langham JM, Boggs KS. The effect of a ward-based pharmacy technician service. The Pharmaceutical Journal. 2000 June 24. 264 (7102) Pg 961-963.

Correspondence: Cliona Hayden, Chief Pharmacist, Wexford General Hospital Email: clionam.hayden@hse.ie Tel: (053) 9153261

Oral presentations: Working with others (FIP Goal 8)

Time: 11.45am – 1.15pm

Location: The Oak Room

Chair: Cathal Cadogan

Author	Title
Geraldine Creaton	Reducing Harm from omitted and delayed Parkinson's Disease medications
Sara Gardner	Modelling the impact of antibiotic use and infection control agents on the incidence of methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) incidence rates in hospital, informed by identifying antibiotic usage thresholds utilizing non-linear time series analysis
Oisín Kavanagh	More than Coffee – A World Café to explore enablers of Irish pharmacy practice research
Claire Kavanagh	Evaluating a clinical pharmacist service in a residential care unit
Matthew Lynch	Pharmacy Act 2007 – A qualitative study of community pharmacists' experiences of the regulation of pharmacy in Ireland
Cicely Roche	Title: Spotlight on role-play and peer interaction in dilemma resolution: a NeoKohlbergian approach to Interprofessional education

Reducing harm from omitted and delayed Parkinson's Disease medications

Castilla E¹, Carolan A², Moran J³, Creaton G⁴

¹Pharmacy Dept St Vincents University Hospital, ²Pharmacy Dept Saint John of God Hospital, ³Pharmacy Dept Regional Hospital Mullingar, ⁴Pharmacy Dept St John's Hospital, Limerick on behalf of the Irish Medication Safety Network (IMSN)

Background

Medicines management is crucial in the care of the patient with Parkinson's Disease (PD) when they are admitted to hospital, either electively or in an emergency. Missed or delayed doses can impair patients' swallow, increase their risk of aspiration, render them immobile and prone to falls and fractures, and at worst, progress to Neuroleptic Malignant Syndrome, which can lead to coma or death.

The Irish Medication Safety Network (IMSN) is a voluntary, independent group of hospital pharmacists which aims to improve patient safety with regard to the use of medicines. The IMSN promotes the exchange of information on medication safety and facilitates national and global initiatives to help minimize risks to patients.

One aspect of this collaborative effort is the development and distribution of safety alerts on high-risk areas of medication safety. These safety alerts are designed to allow the delivery of a succinct message in a one page format highlighting:

1. Details of the particular risk identified
2. Evidence of harm including short anecdotes of episodes of harm
3. Suggested steps to reduce the risk of harm to patients in practice

Methodology

In January 2019, the IMSN produced a Safety Alert titled 'Reducing harm from omitted and delayed Parkinson's Disease medications'.

Following the development of a safety alert, a communication cascade then follows ensuring sharing of information across a wide range of healthcare professionals. This alert was published on the IMSN website, twitter and distributed to professional and representative bodies for inclusion in newsletters to their members. Retweeting the alert on World Parkinson's Day on 11th April also enhanced online engagement.

Discussion/Conclusion

This safety alert highlighted particular medicines management risks in the care of patients with Parkinson's Disease. Sharing of this information via numerous platforms to a range of healthcare professionals generated engagement online demonstrating the value of safety alerts in aiding learning and sharing good practice recommendations.

The IMSN continues to promote the sharing of information through the publication of safety alerts and recognises the help from professional and regulatory bodies in cascading these alerts to their members.

Correspondence

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Modelling the impact of antibiotic use and infection control agents on the incidence of methicillin-resistant *Staphylococcus aureus* (MRSA) incidence rates in hospital, informed by identifying antibiotic usage thresholds utilising non-linear time series analysis (TSA)

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Background

To date empirical evidence has shown antibiotic use and antimicrobial resistance relationships to be linear, that is the more antibiotics used the more resistance seen, regardless of the level or intensity of use. However, theoretical and mathematical models suggest that non-linear relationships are more likely, that the relationship between antibiotic use, infection control and antimicrobial resistance is non-linear and depends on levels of antibiotic use, infection control agents and other ecological factors. In theory if we could establish environmental threshold levels we could potentially curtail and control the drug-resistance problem by keeping total use thresholds below a level that maintains and spreads resistance genes into the community at large.

Materials/Methods

We have applied a non-linear TSA method to explore relationships between antibiotic use, infection control activities and rates of MRSA within Antrim Area Hospital.

Results

The non-linear TSA model showed MRSA prevalence density was positively associated with rates of MRSA in the previous month, with consumption of fluoroquinolones and co-amoxiclav exceeding total use thresholds. An inverse relationship was observed with increases in hospital consumption of alcohol-based hand rub (ABHR) up to 0.8 Litres/100 Occupied Bed Days (OBDs), above which further increases were not associated with further declines in MRSA. The results of the non-linear TSA model were then translated into policy suggestions. The maximum fluoroquinolone consumption, as suggested by the threshold, should be 87.6 Defined Daily Doses (DDD) therefore fluoroquinolone consumption needs to be reduced by 15-30% (based on consumption in the previous 12 months). The maximum co-amoxiclav consumption, as suggested by the threshold should be 531.1 DDDs therefore co-amoxiclav consumption needs to be reduced by up to 10% (based on consumption in the previous 12 months).

Conclusions

By identifying critical thresholds in associations between use of key antibiotic selection pressures and rates of resistance, non-linear TSA can provide quantitative goals for antibiotic stewardship interventions. A stewardship policy will now be devised that restricts fluoroquinolone and co-amoxiclav consumption to a level below threshold.

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More than coffee – A world café to explore enablers of Irish pharmacy practice research

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Objective

To explore the enablers of pharmacy practice research.

Design and Setting

In this qualitative study, a pharmacy research discussion day was held in November 2018, open to all pharmacists in Ireland and a World Café methodology was utilised to provide a mechanism of facilitating group discussions about pharmacy practice research. A total of 63 participants took part in discussions. We used thematic content analysis of the recorded discussions to identify emergent themes.

Results

Seven themes and seventeen subthemes were identified. The seven themes were research motivations, challenges undertaking research, funding, leadership, training and communication of research strategies. Subthemes included research prioritisation, alignment with national and international health system priorities, sharing training materials, benefits of local research activities lack of links between academia and primary care, competitive business model and incentives for research.

Conclusions

Our study highlights the interest of members of the Irish pharmacy profession in research and provides valuable stakeholder opinion. Leadership, funding training and communication of research strategies were identified as components required to facilitate the growth of pharmacy practice research.

Correspondence

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Evaluating a Clinical Pharmacist Service in a Residential Care Unit

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Background: This study assessed the pharmacist role in an 80 bed residential care unit by (1) Quantifying the number and type of pharmacist interventions made and their acceptance rate, (2) Assessing impact of pharmacist interventions on patient care and (3) Assessing staff attitudes towards the clinical pharmacist service.

Methods: This was a non-blinded, non-comparative evaluation of the existing clinical pharmacist service in the unit. All residents were included. All pharmacist interventions over a 10-week period were recorded, then graded according to the Eadon scale¹ by a consultant gerontologist and an experienced pharmacist to assess their impact on patient care.

Results: There were 615 pharmacist interventions. The most common interventions were: Drug Therapy Review, 34% (n=209); Technical Prescription, 26.5% (n=163); Administration, 15.3% (n=94); Drug Interaction, 10.4% (n=64) and Medication Reconciliation, 8.5% (n=52).

98% (n=596) of interventions were rated as having significance to patient care, of which:

- 48.4% (n=298) and 41.8% (n=257) of the interventions rated as 'significant and resulting in an improvement in the standard of care'
- 1% (n=6) and 0.5% (n=3) rated as 'very significant and preventing harm'.

There was a statistically significant agreement between the evaluators, kw = 0.231 (95% CI, 0.156 to 0.307), p < .0005. The strength of agreement was fair.

Of interventions requiring acceptance by medical team (n=335), 89.9% (n=301) were accepted.

95% (n=36) of staff who responded agreed or strongly agreed that improved patient safety resulted from the pharmacist's involvement in multidisciplinary medication reviews. Over 92% (n=35) agreed or strongly agreed that their experience of the pharmacist was positive.

Conclusion: The pharmacist has an important role in our residential care unit. Their involvement in the medicines optimisation process positively impacts patient outcomes and prevents harm. Staff perceived a positive impact of the clinical pharmacist service provided on patient care and patient safety.

Reference:

1. Eadon, H. 'Assessing the quality of ward pharmacists' interventions', International Journal of Pharmacy Practice 1992 Jan;(3):145–147.

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Pharmacy Act 2007 – A qualitative study of community pharmacists' experiences of the regulation of pharmacy in Ireland

Lynch, M

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Introduction

The Pharmacy Act 2007 updated and revised the regulatory model for the profession and practice of pharmacy in Ireland. Since its introduction, no review of the Act or its implementation had been undertaken. This study addressed this and examined how community pharmacists in Ireland experience the Act and its implementation.

Objective

To describe how community pharmacists (CPs) experience the model of regulation introduced by the Act, its implementation and their perception of it as fulfilling the seven principles of “better regulation”: Necessity; Effectiveness/Targeted; Proportionality; Transparency; Accountability; Consistency and Agility

Method

20 CPs were purposively selected, to participate in a semi-structured one-to-one interview to share their experiences of the Act and its implementation by the Pharmaceutical Society of Ireland (PSI). Interview data was analysed using a qualitative content analysis approach incorporating a framework analysis based on the seven principles of better regulation.

Results

Overall, the CPs interviewed did not perceive the Act and its implementation by the PSI interviewed as fulfilling the principles of better regulation. While there was agreement that the Act was necessary, they did not view its implementation as effective, targeted, proportional, transparent or consistent. They perceived the PSI as not being sufficiently accountable for the discharge of its statutory duties under the Act. Participants did not view the Act as sufficiently agile to respond to the on-going changes in pharmacy practice.

Conclusions

The CPs in the study acknowledged the need for a Pharmacy Act to regulate the practice and profession of pharmacy but considered that the PSI needs to adopt a more responsive approach if it is to fulfil the principles of better regulation. The principles of better regulation provide an effective methodology to qualitatively study models of professional regulation. The study findings are of interest as there is little research published on how those who are subject to regulation experience its provisions.

Correspondence

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Spotlight on role-play and peer interaction in dilemma resolution: a Neo-Kohlbergian approach to Interprofessional education.

Roche, C*, Grimes, T., Kavanagh, J., Guinan, E¹

Background: Research indicates that interprofessional education (IPE) initiatives face challenges when seeking to: identify teaching materials that appropriately motivate interaction between students from different disciplines¹; design objective assessment of students' development², and accommodate the timetabling and logistical demands³. Educational interventions that incorporate a mix of logic, role play and peer interaction^{2,4-5}, by using Intermediate Concept Measures¹ (ICMs)², have shown positive impact on development of professional decision-making in pharmacists in Ireland⁶⁻⁸. Derived from Neo-Kohlbergian Theory (NKT), ICMs were originally developed to address profession-specific learning and assessment, and the Irish study adapted the approach for use in the online environment⁶⁻⁷.

Aim: To (i) describe the process, adapted from NKT, used to structure, create and 'validate' a series of IP-ICMs, and (ii) outline how they might effectively support IPE.

Method Five Interprofessional ICMS (IP-ICMs) were drafted, each incorporating a written scenario, 12 action options and 12 justification options relevant to each of the healthcare professions (HCPs) involved. Each ICM includes two or three HCP perspectives and a total of 13 separate versions were prepared to collectively incorporate the nine HCPs engaged in IPL in TCD. Ten core ethical concepts and a range of common biases relevant to practice were identified from the literature and incorporated across the five ICMs. A minimum of 5 healthcare professionals ('experts') reviewed each version of each ICM in a manner consistent with NKT.

Results: The results from the expert group review were as expected by NKT, i.e. that when the ICMs are incorporated into appropriately designed IPE interventions they should appropriately motivate students to engage in logic, role-play and peer interaction, in a manner that can be assessed. The materials have been developed in a range of formats to support face-to-face, blended and online teaching, learning and assessment.

Conclusions: Existing NKT related to the development of ICMs can be applied to IPE.

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* ICMs comprise of a short context-specific 'dilemma' scenario, and series of action and justification choices that participants rate and rank. Dilemma scenarios include relevance to ethical principles/ concepts e.g. respect for autonomy. Action and justification options reference behaviours and motivations with a focus on self-interest, maintaining rules and norms, and 'patient' and/or societal interests.

Oral presentations: Competency development (FIP Goal 5)

Time: 2.45pm – 4.15pm

Location: The Garden Room

Chair: Carole Parsons

Author	Title
Eimear NiSheachnasaigh	An exploration of pharmacy students' resilience and the factors affecting it: a questionnaire study
Fiona O'Neill	'Three New Things': Content analysis of undergraduate pharmacy students' statements of new learning on an experiential hospital placement
Heather Bell	Development of a foundation programme for general practice pharmacists
Laura Sahm	How the SWAMECO questionnaire can help pharmacists to detect swallowing difficulties
Michelle Flood	Shaping Up for Success: A Qualitative Case Study on the Use of Interactive Radar Graphs on Workplace-Based Assessment Practices for Pharmacy Interns in Ireland
Roisin O'Hare	Pre-prescribing competencies; what is being taught in the MPharm in QUB and across the UK?

An exploration of pharmacy students' resilience and the factors affecting it: a questionnaire study.

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Background

A high risk of burnout syndrome exists among practicing healthcare professionals (HCPs) with recent studies focusing on the risk and prevalence of burnout among students studying in the healthcare disciplines¹. Many of these have demonstrated how the development of personal and professional resilience can be a mechanism of avoiding burnout both in student and practicing HCPs^{2,3}. HCP burnout also shows consistent negative relationships with quality and safety of patient care⁴. The serious ramifications of burnout and its inverse correlation with resilience would suggest that resilience is a highly desirable if not essential trait for students embarking on an undergraduate degree in a healthcare profession such as pharmacy. In this study, the researchers aim to determine pharmacy students' resilience levels and to investigate factors that affect their resilience.

Method

An online survey was distributed to all registered students on the pharmacy programme in Trinity College Dublin (n=272) using Survey Monkey Pro. Statistical analysis was undertaken using SPSS version 25.

Results

Overall, 49% responded (n=132). Students across all four years of the programme were determined to have a moderate level of resilience. There was no statistically significant difference found in resilience levels between the year groups or genders. Factors such as stress, anxiety and depression were inversely correlated with resilience while overall well-being, reflective ability and social support were factors positively correlated with resilience.

Conclusion

Findings of this study indicate that there is potential for resilience levels of pharmacy students to be enhanced. Factors identified as having a positive impact on resilience should be targeted for the development and implementation of resilience enhancing interventions.

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2. Robertson, Helen D et al. Resilience of Primary Healthcare Professionals: A Systematic Review. *The British Journal of General Practice* 66.647 (2016): e423–e433. PMC. Web. 16 Sept. 2018.
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“Three New Things”: Content analysis of undergraduate pharmacy students’ statements of new learning on an experiential hospital placement.

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Northern Ireland Teacher Practitioner Pharmacist Network (NITPPN) and ¹Northern HSC Trust, ² Southern HSC Trust, ³ Western HSC Trust, ⁴South Eastern HSC Trust.

Background

NITPPN delivers hospital placements for third year pharmacy students, developing competency by facilitating work-based activities mapped to GPhC Standard 10 Learning Outcomes¹. Students provide anonymous, written Kirkpatrick Level One (satisfaction)² feedback to tutors at the end of each of the four on-site days. During the 2018 placement, TPs invited students to give pharmacist tutors oral and written Level Two (learning)² feedback. They told their tutor “three new things learned today” and documented them on a checklist, submitted to TPs on day four.

Aim

To examine and categorise pharmacy students’ statements of new learning gained during a hospital placement.

Method

The NITPPN team performed a content analysis of data obtained from 104 Queen’s University Belfast students, categorising under Medicines Optimisation principles³, with sub-categories including BNF chapters, monitoring, indications, regimens, adverse effects and hospital processes.

Results

Students described a wide range of learning points. Most statements pertained to Medicines Optimisation Principle 3: Ensuring medicines use is as safe as possible, in particular sub-categories “Hospital Processes” and “Monitoring”. Fewer pertained to Principle 1: Understanding the patient’s experience of medicines.

Conclusion

The introduction of “three new things” facilitated students giving immediate feedback on their learning to pharmacist tutors. It allowed pharmacists to correct a small number of errors, preventing reinforcement of misconceptions. Students’ statements revealed positive learning experiences. Learning about hospital processes meets an objective of work-based learning i.e. understanding the workplace⁴. Future work should include developing competency around understanding patients’ experiences, and fostering empathy and compassion. This promising innovation has been adopted for subsequent placements.

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Development of a foundation programme for practice-based pharmacists

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Introduction

In 2015, the Department of Health invested £17 million to enable widespread practice-based pharmacy support across all general practices in NI. The aim of this initiative is to improve prescribing, support GPs and increase patient access to healthcare. NICPLD worked alongside the GP Federations to develop a training programme to equip individuals with the necessary skills, knowledge and behaviours to practice within this new sector.

Method

The ultimate aim was to develop a foundation programme for practice-based pharmacists (PBPs), thus aligning the training of pharmacists within this sector to that of both the hospital and community pharmacy sectors. However, in the first instance, the focus was on upskilling PBPs quickly to enable them to register for the Independent Prescribing programme. A training needs analysis was undertaken to determine the learning needs of pharmacists practising in the sector. Subsequently, a 6 month training programme was developed, consisting primarily of live workshops. This programme was further developed in 2018 into the PBP development programme (PBPDP) which shifted the focus to the development of competence. Within the PBPDP, PBPs completed workshops and practice activities and developed a portfolio to evidence their developing competence against a limited number of competencies.

Results

In April 2019, NICPLD launched the Practice-based Pharmacist Foundation Programme (PBFPF). The programme is based on the Royal Pharmaceutical Society Foundation Pharmacy Framework and focuses on in-practice training and experiential learning in the workplace. During the in-practice training, pharmacists develop a portfolio and undertake practice activities to develop and demonstrate their competence across four practice areas. Throughout the PBFPF, pharmacists are supported in the workplace by an Educational Supervisor. In addition to practice activities, a number of workshops and distance learning activities are provided to further enhance competence development.

Conclusion

The PBP foundation programme has been developed as a result of lessons learned from other programmes. Consideration must now be given to the development of advanced practice programmes to provide a career pathway for pharmacists working within general practice.

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How the SWAMECO questionnaire can help pharmacists to detect swallowing difficulties

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Introduction

Difficulty swallowing oral medications may result in modification of the dosage form, nonadherence, omission of doses or discontinuation of medications [1, 2]. Patients with swallowing difficulties create their own coping strategies to take medicines. However, some strategies may be unsafe. The SWAMECO self-report questionnaire was created to detect people with swallowing difficulties with medication intake, especially concerning the ingestion technique. It contains 28 items and takes 10 minutes to complete. The goal of this study was to test the SWAMECO questionnaire in the general population.

Methods

Customers entering a community pharmacy, over 18-years-old and who took three medicines or more, for at least three months were eligible. Pregnant women were excluded. Pharmacy staff invited customers to complete the questionnaire in the pharmacy. Data were collected over twelve weeks in three community pharmacies in and around Cork, between the 21st February and 12th April 2019. Local Ethics approval was granted.

Results

A total of 303 people (mean age: 70.3±12.5 years; 60.7 % female) participated. Difficulties with swallowing medicine, or food or drink were reported by 56 (18.5 %) participants. Difficulties with medication intake were current and ongoing for 24 (7.9 %) participants. Of these; five (20.8 %) tilted their head slightly back, and two (8.4 %) used the chin tuck strategy to take the medication.

Conclusion/Implications

The SWAMECO questionnaire can help detect patients with swallowing difficulties in an Irish population. The presence of an inappropriate ingestion technique as a coping strategy, in every fifth patient with swallowing difficulties, is of concern and may be ameliorated by increased awareness and education of pharmacy staff and subsequently their patients.

References

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2. Wright D (2002) Tablet crushing is a widespread practice but it is not safe and may not be legal. *Pharm J* 269(7208):132.

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Shaping up for success: a qualitative case study on the use of interactive radar graphs on workplace-based assessment practices for pharmacy interns in Ireland

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Introduction

Workplace Based Assessment (WBA) is a key feature of competency-based education, and involves assessment of trainees in the workplace based on observation of performance using structured frameworks or specific WBA tools. Since 2014, pharmacy interns in Ireland have been formatively and summatively assessed against the PSI's 178item Core Competency Framework for Pharmacists by a tutor during their internship training. This leads to the generation of large numbers of ratings which may prove challenging to interpret. This research explored how a novel radar-graph information visualisation tool designed to support this process impacted on WBA practice.

Methods

In order to explore the impact of the visualisation tool on practice, an activity theory-based methodology approach was used. First, existing an activity system of existing practice was modelled using data gathered from document analysis and focus groups. Second, interns and tutors were observed completing WBA tasks with and without the visualisation tool in a simulated environment. Finally, direct observations of interns and tutors completing WBA tasks in their workplace were completed and analysed.

Results

Modelling existing practice highlighted that WBA is a complex practice, with many intrinsic challenges and tensions. Challenges relating to aspects of WBA including the competency framework, rating scale, and traditional conceptualisations of time-based progression. Findings from the studies of the visualisation tool indicate that participants found it straightforward to use, it helped participants interpret the competency framework in a more holistic manner, and when it was used in practice, it freed up time which was then directed to the provision of feedback to the interns.

Conclusions

Introducing a visualisation feature to assist WBA supported better use of time and facilitated provision of feedback tailored to the intern's needs. However, further consideration should be given to how other elements (e.g. competency framework and rating scale) can be optimised.

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Pre-prescribing competencies; what is being taught in the MPharm in QUB and across the UK?

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Introduction

The landscape of prescribing is continuing to evolve, with increasing prescribing rights by a range of healthcare professionals, including pharmacists. This project seeks to explore what pre-prescribing competencies are taught across Schools of Pharmacy in the UK and also MPharm undergraduate student understanding of the pre-prescribing competencies taught in the QUB MPharm.

Method

All MPharm courses across the UK were asked to complete a questionnaire (Q1) regarding their teaching of pre-prescribing competencies¹. All Queen's University Belfast (QUB) final year MPharm students were invited to complete a second questionnaire (Q2) to explore their views on the teaching of pre-prescribing competencies in the QUB MPharm.

Key findings

Staff and student responses in both Q1 and Q2 respectively reported a high level of satisfaction with the teaching of pre-prescribing competencies currently in the MPharm. Clinical examination skills had lowest satisfaction level with both staff and students. Some further comments from students and staff included a frustration at the lack of workbased learning in the MPharm currently and the lack of funding for extended clinical placements was also discussed.

Conclusion

This study found high satisfaction from staff and students with current teaching of most pre-prescribing competencies in MPharm courses across the UK, with a caveat that increased work-based practice, particularly with examination skills is essential.

References

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Oral presentations: Workforce impact (FIP Goal 11)

Time: 2.45pm – 4.15pm

Location: The Oak Room

Chair: Sarah Fagan

Author	Title
Sinead McCool	IPU pilot to detect hypertension and atrial fibrillation in the community
James Blackburn-Smith	Development and reliability of a clinical pharmacy triage tool in the emergency department
Johanne Barry	Preparation for practice: final year pharmacy students' reflections on their MPharm
Mark McCullagh	Medication Incidents Reported by Irish Acute Hospitals, 2017 – 2018
Frank Moriarty	Characterising aspirin use in cardiovascular disease in in community-dwelling middle-aged and older adults in Ireland
Bart van Oyen	Actual versus 'ideal' antibiotics dispensed in primary care in the southwest of Ireland

IPU pilot to detect hypertension and atrial fibrillation in the community

Mc Cool, S and Logan, P. Irish Pharmacy Union

Irish data on hypertension and atrial fibrillation suggest that the prevalence of each is rising with the growing elderly population and is projected to at least double in the next 50 years¹.

The need for prevention, early detection and comprehensive patient centred management of chronic illnesses, has been recognised by a number of Irish health system reports^{2,3} and the Oireachtas Committee on the Future of Healthcare's *Sláintecare Report*⁴. This called for healthcare to be delivered at the lowest level of complexity and is safe, efficient and good for the patients.

The aim of the pilot was to identify those people over 50 years of age who were at risk of hypertension or atrial fibrillation or both. The IPU worked with the Irish Heart Foundation to deliver a standardised intervention of a blood pressure and pulse check to patients, provision of heart healthy lifestyle advice, and referral to their GP where appropriate. More than 1,100 patients were checked during the 2-month pilot period.

Results show that:

- An irregular pulse (possible atrial fibrillation) was detected in 5.5% of participants who were checked
- 27% of participants were identified with high blood pressure (possible hypertension);
- Both an irregular pulse (possible atrial fibrillation) and high blood pressure (possible hypertension) were noted in 2% of participants;
- 26% of all participants checked were referred to their GP;
- 4% of the total population checked were commenced on medicines for hypertension, atrial fibrillation or both.

The Pilot demonstrated that, by carrying out a standardised population health check for hypertension and atrial fibrillation in the community pharmacy, a highly accessible healthcare location, community pharmacists can deliver an extremely positive benefit to participants in terms of prevention, detection and initial management of the conditions of hypertension and atrial fibrillation.

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Development and reliability of a Clinical Pharmacy Triage Tool in the Emergency Department

Blackburn-Smith J¹, Brownrigg E¹, Hodson K², Lawther A¹, Macintyre J¹

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Introduction

Increased patient throughput and reduced length of stay has necessitated the need to ensure the clinical pharmacy service utilises its staff effectively and targets the patients with highest pharmaceutical care needs. This prompted the clinical team leads to consider triage tools available to them so they could utilise the pharmacy workforce effectively across a 7 day service.

Aim

To develop and adapt a definitive clinical pharmacy triage tool (CPTT) and to assess how reliable a CPTT is when used in practice by a team of Emergency Department (ED) pharmacists.

Methodology

A mixed-methods design, comprising of three phases, allowed for appropriate data triangulation and evaluation. Phase 1 used key informant interviews to explore the factors that were important in the initial design and adaptation of a CPTT. Phase 2 utilised action research methodology to rapidly adapt the CPTT into a definitive version. The final phase determined the reliability of the definitive CPTT when used in practice within an ED setting by clinical pharmacists.

Results

Phase 1 data indicated a number of themes important in the development of a CPTT; including medication, disease and patient related factors. These were adapted into the design of the CPTT, which was further modified in phase 2. When the definitive CPTT was used in practice by a team of ED pharmacists, reliability data demonstrated substantial and almost perfect levels of agreement (Cohen's kappa 0.65-0.86).

Discussion and conclusion

The study demonstrated that a CPTT could be adapted, refined and used locally within an ED setting to target high risk patients. Potential barriers and limitations may restrict the application of the CPTT in other clinical areas until further testing can demonstrate appropriate reliability. Further work is required to demonstrate the benefit of using CPTT in terms of patient outcomes, key performance indicator improvements and whether there is any effect on pharmacist satisfaction.

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Preparation for practice: final year pharmacy students' reflections on their MPharm

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Background and Aim

MPharm students' experiences of teaching and learning have previously been shown to predict their perceived preparedness for practice, with variation shown when analysed at the level of school of pharmacy attended¹. In this study we investigated final year students' perceived preparedness for practice in the context of recent reforms to standards for the initial education and training of pharmacists.

Method

A questionnaire was distributed to final year MPharm students at five United Kingdom (UK) schools of pharmacy. Twenty-five statements related to the values and attributes of effective clinical practice derived from the Professional Attributes Framework² were used to capture students' views on the impact of their MPharm on preparing them for practice. Descriptive and inferential statistics were used to analyse the data.

Results

Response rates varied between 47-92% with a total of 353 students completing the questionnaire. Participants were most likely to be female (64%), to agree that they were prepared in relation to the clinical knowledge required for practice (98.3%), for effective communication (96%), and to provide patient-centred care (94.6%); fewer felt prepared to take on leadership roles (80.3%) or to remain calm under pressure (80.5%).

Conclusion

Ensuring pharmacy graduates are prepared for practice is a fundamental role of educators; given variation in undergraduates' perceptions of extent to which their MPharm has prepared them, future research should focus on determining whether, longitudinally, such differences are important for effective clinical practice.

References

1. Willis SC, Hassell K, Seston EM, Hann M. Using learning outcomes for undergraduate pharmacy education to assess final year students' perceptions of their preparedness for pharmacy practice. *International Journal of Pharmacy Practice* 2009 17(6):351-358.
2. Health Education England Pre-registration Pharmacist Professional Attributes Framework (PAF) [Internet]. NHS Health Education England & NHS Wales 2016 Available from: www.hee.nhs.uk (accessed 10/05/2019).

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Medication Incidents Reported by Irish Acute Hospitals, 2017 – 2018

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Introduction

A medication error is a preventable event which may lead to inappropriate medication use or patient harm.¹ The annual incidence of medication errors in the NHS in England has been estimated at 237 million, while the estimated annual cost of avoidable adverse drug reactions is £98.5 million (€114.4 million).¹

Aims

The aims of this study were to (i) quantify the number of medication incidents reported in Irish acute hospitals in 2017 and 2018, (ii) identify the staff groups reporting, (iii) determine where in the medication use process incidents were occurring, (iv) establish the medication groups at ATC level 3, and the medications by generic name, most frequently identified in medication incident reports.

Methods

The State Claims Agency (SCA) hosts the National Incident Management System (NIMS) on behalf of the Health Service Executive (HSE) and other publicly funded healthcare providers. The NIMS database was searched for all medication incidents reported (created) by Irish acute hospitals in 2017 and 2018.

Results

The search revealed that there were 10,515 medication incidents reported by the acute care system in 2017 and 10,274 in 2018. This represented 27.4% of all clinical incidents in 2017 and 24.9% in 2018. Medication incidents were reported by allied health professionals (54% in 2017; 49% in 2018), nursing / midwifery (39%; 45%) and medical staff (4%; 4%). The majority of reported medication incidents occurred at the prescribing stage (59% of all incidents in 2017; 54% in 2018) and the administration stage (29% in 2017; 34% in 2018) of the medication use process. The medication groups at ATC level 3 most frequently reported in medication incidents were antithrombotic agents (1019 incidents in 2017; 1151 in 2018) followed by opioids (497 in 2017; 505 in 2018) and penicillins (436 in 2017; 507 in 2018). Medications most frequently identified in these reports included enoxaparin (292 incidents in 2017; 350 in 2018), paracetamol (168 in 2017; 275 in 2018) and amoxicillin / clavulanic acid (199 in 2017; 209 in 2018).

Conclusion

Medication incidents are common in Irish acute hospitals. By shedding light on where in the medication use process incidents are occurring and the medications most frequently implicated in medication incidents, this study will enable the acute healthcare system in Ireland to target safety initiatives at the processes and the medications where they are likely to have most impact in terms of patient safety.

References

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Characterising aspirin use in cardiovascular disease in in community-dwelling middle-aged and older adults in Ireland

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¹HRB Centre for Primary Care Research, RCSI, Dublin. ²The Irish Longitudinal Study on Ageing, Trinity College, Dublin.

Introduction

Cardiovascular guidelines have varied over time in their recommendations on aspirin prescribing indications for cardiovascular treatment and prevention. The 2016 European guidelines on cardiovascular prevention recommend against antiplatelet agents in patients without CVD history (primary prevention). This study aims to characterise prescribing of aspirin among people aged ≥ 50 years in Ireland for primary and secondary prevention, and assesses factors associated with primary prevention

Methods

This cross-sectional study includes participants from wave 3 (2014-2015) of TILDA. We identified participants reporting use of prescribed aspirin, other antiplatelet or anticoagulant agents, and those reporting a doctor diagnosis of previous CVD (MI, angina, stroke, or TIA) and other cardiovascular conditions. We summarised aspirin and other antithrombotic use by cardiovascular morbidity and examined factors (age, sex, GMS eligibility, education, area of residence, frequency of GP visits) associated with aspirin use for primary prevention in multivariate regression. For those with no previous CVD who underwent a health assessment, we estimated their 10-year cardiovascular risk using the Framingham general risk score, and assessed whether aspirin use was associated with this.

Results

This study included 6,618 older adults, of whom 55.6% (3,679) were female with a mean age of 66.9 years (SD 9.4). Prescribed aspirin was reported by 1,432 participants (21.6%), and 77.6% of aspirin users had no previous CVD. Among participants with previous CVD, 17% were not prescribed aspirin or another antithrombotic. This equates to 201,000 older adults nationally using aspirin for primary prevention, and 16,000 with previous CVD not prescribed aspirin or another antithrombotic.

Among those without CVD, older age, male sex, medical /GPV card eligibility, and more GP visits were associated with aspirin prescribing. For those who underwent a health assessment, mean Framingham cardiovascular risk was higher among those prescribed aspirin (21.4%) compared to non-users (14.6%), and cardiovascular risk was significantly associated with aspirin use after adjustment for demographic factors (relative risk 1.15, 95% CI 1.08 to 1.23, for each 10% increase in cardiovascular risk).

Discussion

We estimate one fifth of people aged ≥ 50 years on aspirin have no previous CVD. This may reflect a legacy of historical guideline recommendations which have now changed. Medical card status and GP utilisation may relate to likelihood of receiving aspirin for primary prevention, and raises questions about whether treatment is based on access to healthcare. Prescribing for primary prevention appears rational in targeting those with higher cardiovascular risk. Future cardiovascular guidelines should consider incorporating recommendations on deprescribing aspirin in prevalent users where not indicated.

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Actual versus 'ideal' antibiotics dispensed in primary care in the southwest of Ireland

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Background

Antibiotic prescribing guidelines based on expert opinion have identified 'preferred' antibiotics recommended for use in primary care. Data on adherence to best practice antibiotic prescribing guidelines in a primary care setting dominated by private practice business models is limited.

Objective

The aim of the study is to describe antibiotic dispensing in primary care in five pharmacy practices in three towns in the southwest of Ireland and compare with the HSE Medicines Management Programme of preferred antibiotics.

Design

This study is an audit of pharmacy practice records of antibiotic dispensing. Five pharmacy practices in three towns the southwest of Ireland were selected as a convenience sample of practices linked to our gatekeeper pharmacist. Aggregated dispensing information involving non-identifiable records was extracted between January/October 2017 and 2018. The following variables were included in the abstract: Drug name, drug strength, number of times dispensed in 2017, number of times dispensed in 2018, indication and prescribing practice. That analysis identified which of the antibiotics prescribed were first line, second line and third line treatments according to the HSE Medicines Management Preferred Drugs Scheme.

Results

The percentage of antibiotics dispensed that were first line treatments compared to the total number of antibiotics dispensed ranged from 60.6% to 69.5% in a given town. Between 2017 and 2018, two towns showed a slight increase in the ratio of preferred antibiotics dispensed while one town remained steady. Co-amoxiclav was frequently prescribed even though it is not the first line recommended treatment for most common infections in the community.

Conclusions

Our study describes antibiotic dispensing at a community level and confirms persistent co-amoxiclav use in the community. The next step is to use this audit template to encourage antimicrobial stewardship by dissemination to prescribers.

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Poster abstracts

“Pills, ills and clinical skills” Using Multiple Mini Interviews (MMI) to recruit a values based workforce for clinical pharmacy in Northern Ireland

O’Hare, R; Laird, S; McCorry, A; Watt, L and Boyce, T. Southern Health and Social Care Trust (SHSCT).

Background

There has been a growing emphasis on the “values” of our workforce and selecting pharmacists for the future pharmacy workforce who are able to provide safe, compassionate care to patients and their families whilst displaying the desirable personal and professional qualities of a pharmacist professional can be challenging. “Multiple Mini Interview” (MMI) seeks to explore non-academic competencies in candidates.

Method

An implementation planning team was formed to plan, execute and evaluate the interview process. All interviewers were trained on the MMI process and their station rubric. All interview candidates participated in 5 MMI stations. Overall communication skills were also evaluated at each station. Candidate and Interviewer questionnaires were developed and piloted. This study achieved research governance approval from SHSCT.

Results

In June 2018; 95 candidates completed the MMI with 10 interviewers. All candidates and interviewers completed the feedback questionnaires. Seventy-nine percent (n=75) of candidates passed 3 or more stations with just one candidate not passing any of the stations. Almost all (99%) of candidates demonstrated appropriate communication skills in every station. Ninety percent of interviewers but just 59% (n=55) of candidates agreed or strongly agreed that MMI was an effective and efficient method to evaluate non-academic qualities.

Conclusion

Candidate performance demonstrated a high attainment of desirable attributes for the NHS. We believe that this novel recruitment method has good acceptance in the robustness and “fairness” of the method compared to the previous method of recruitment. It has also increased the objectivity of interviews as all interviewers were trained together and also in their pairs and all candidates participated in the same stations.

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The population with intellectual disabilities and behaviour disorders: specialist pharmacists are needed!

Flood, Bernadette. Daughters of Charity Disability Support Services Dublin.

Background

The population with intellectual disabilities (ID) and behaviour disorders is one of the most vulnerable groups in society. This population is one of the most medicated groups in healthcare. Pharmacists can make positive interventions to ensure safety and improve quality.

Method

A pharmacist managed a successful international multidisciplinary Delphi process that identified quality indicators (QIs) for medication use in this vulnerable population. The pharmacist also interviewed people with ID to gain an insight into the medication use process. Information supplied analysed using grounded theory.

Results

Six crucial QIs were identified. Interview data highlighted quality issues in the medication use process for people with ID. The population with ID and their carers may be 'unseen' and 'unheard' by pharmacists and others. Specialist pharmacists required to ensure the safety of PWID in the medication use process¹.

Conclusion

Medication use in the population with ID and behaviour disorders is at the complex interface between the individuals' rights, the law and ethics and the care the person is receiving from pharmacists and others. Specialist pharmacists with knowledge and expertise in this area of health and social care are required because: (1). The medication and other needs of the population with ID are greater and more complex and often present differently to that of the general population. (2). People with ID are more likely to have limited communication and therefore require special consideration. (3). People with ID have the right to access the highest standards of healthcare and pharmaceutical care.

Acknowledgement: Martin Henman PhD MPSI, TCD School of Pharmacy. PhD Supervisor.

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¹ Flood, Bernadette. Unpublished PhD Thesis 2016. The Specialist Pharmacist and Quality Indicators of Medication Use in the Care of People Ageing with Intellectual Disabilities and Behaviour Disorders.

Does a Cardiology in Clinical Pharmacy Practice Module Equip Pharmacists with the Knowledge and Skills to Optimise Patient Care?

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Background: Cardiovascular disease is the leading cause of mortality and morbidity in Ireland. A Continuing Professional Development module was developed in collaboration with pharmacists and doctors from hospital and community backgrounds.

Aims: To equip community and hospital pharmacists with the knowledge and skills to optimise cardiovascular patients' management, thereby improving patient safety and pharmaceutical care.

Methods: The module is delivered via a virtual learning environment (Blackboard 9.1), with face-to-face evening workshops at the start and end. Eight cardiology topics are followed by two 'practice dilemma' sessions, enabling students to apply key principles to complex patients in their practice. Each topic has a podcast lecture, directed reading, online activities and practice guidance. Assessment is through online assignments (e.g. multiple-choice questions, workplace tool development), casework (including online discussion) and a reflective eportfolio. A SurveyMonkey questionnaire, with 13 open and closed questions for anonymous completion, was emailed to 211 pharmacists, who undertook the module from 2013-2018.

Results: Response rate was 26%. 67% were from community pharmacy. 100% agreed/strongly agreed that the course helped them to (a) identify/assess relevant factors for the management of cardiovascular patients, and (b) provide appropriate drug therapy advice to patients, carers and healthcare professionals. 95% felt it helped them to optimise drug therapy in cardiovascular patients. 98% rated the podcasts and reference materials as useful/very useful. ~95% found the assessments useful/very useful. 67% rated discussion fora and the eportfolio as useful/very useful. The opening and closing workshops were considered useful/very useful by 87% and 80% respectively. The module's flexibility, opportunities to interact with community and hospital practitioner colleagues, staff support and the practical applicability of course content were identified as key advantages. 94% were quite likely/extremely likely to recommend this module.

Conclusion: Based on self-reports, this module has supported pharmacists in gaining the knowledge and skills to optimise cardiovascular patients' management.

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A systematic review and meta-analysis of brief interventions targeting long-term benzodiazepine and Z-drug use in primary care

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Introduction

Long-term use of benzodiazepines and Z-drugs persists worldwide, despite guidelines recommending short-term prescriptions (≤ 4 weeks). Brief interventions, for example, letters, consultations or educational resources recommending discontinuation of benzodiazepines/Z-drugs have been shown to successfully change patients' behaviour. However, the theoretical basis of the interventions has not been fully explored.

Methods

A systematic review was conducted evaluating the effectiveness of brief interventions targeting long-term benzodiazepine/Z-drug use (≥ 3 months) in primary care. The primary outcome was discontinuation of benzodiazepine/Z-drug use. Study-specific estimates were pooled to yield summary risk ratios (RRs) and 95% confidence intervals (CIs). Risk of bias was assessed using the Cochrane Collaboration's risk of bias tool. Intervention manuscripts were retrospectively coded using the Theoretical Domains Framework (TDF) and Behaviour Change Technique (BCT) Taxonomy. Pearson's correlations were used to assess potential relationships between effect sizes and intervention coding involving the TDF and BCT Taxonomy.

Results

Eight studies were included involving 2068 patients. Meta-analysis showed that, compared to usual care, intervention patients were more likely to discontinue benzodiazepine/Z-drug use at 6 months (RR 2.77, 95% CI 1.85-4.13) and 12 months (RR 3.30, 95% CI 2.36-4.62) post-intervention. High and unclear risks of bias were identified in several areas including random sequence generation. The TDF domains 'Knowledge', 'Memory attention and decision processes' and 'Social Influences' were identified in all interventions. Inverse relationships were observed between intervention effect sizes and the total number of times TDF domains were coded at six and 12 months post-intervention. The most commonly identified BCTs were 'information about health consequences' and 'credible source'. There were no statistically significant relationships observed between number of identified BCTs and intervention effect sizes.

Conclusion

Brief interventions delivered in primary care were found to be more effective than usual care in discontinuing long-term benzodiazepine/Z-drug use. The retrospective TDF and BCT coding has helped to identify theoretical domains that the interventions may have targeted and component BCTs. Future research should seek to understand patient level mediators of long-term benzodiazepine/Z-drug use, allowing for novel interventions that appropriately target known determinants of long-term benzodiazepine/Z-drug use.

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Piloting the Purple Pen: Multidisciplinary audit of final year medical student “pre-prescribing” in a Northern Ireland Teaching Hospital.

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Background

Doctors are qualified to prescribe on registration¹. Previous work has shown lack of preparedness in foundation years^{2,3,4}. Authentic work-based learning is suitable for developing skills and competency^{4,5}. In 2019, the QUB School of Medicine and NI Trusts piloted the “purple pen” project during the final year assistantship. It aimed to develop prescribing competency by allowing students to document medicines on kardexes. Students used purple ink to denote the entry as a “pre-prescription”. A supervising foundation doctor checked and signed the entry, making it a prescription, or directed amendment. This audit was required to evaluate entries for safe practice.

Aim

To evaluate the safety and accuracy of medical student documentation of medicines on patients' kardexes during the “Purple Pen” project.

Method

The “purple pen” project was piloted in three surgical and three medical wards in the Ulster Hospital, SEHSCT. Pharmacists reviewed 60 kardex entries, 30 from each directorate, and audited against criteria from SEHSCT Medicines Policy and the project's standard operating procedure (SOP).

Results

Most “pre-prescribed” regimens (n=57) met Medicines Policy criteria. One entry omitted the administration route; two omitted start date. The allergy box was ticked but not signed for one patient with no known allergies. Entries did not meet all project SOP criteria: none of the entries were highlighted on the front of the kardex; students signed the entry in 22/60 (37%) cases. No incident report forms were required.

Conclusion

The “purple-pen” project provided medical students with an opportunity to develop competency by practising the ritual of prescribing. While audit did not identify harm to patients, and most breaches were procedural, it cannot yet be assumed that it is a safe process. Further scrutiny is warranted, emphasising prescribing as a “high order task” requiring strong knowledge base and procedural skills^{3,4}.

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An Audit of Antimicrobial Prescribing in the Belfast General Practice Out of Hours Setting.

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Background

Avoidable and non-formulary antibiotic prescribing is a concern in General Practice (GP).¹ It is thought that prescribing is higher in GP Out of Hours (OOH) consultations. The Belfast trust OOH service has the highest antibiotic items/1000 contacts compared with all other OOH units in Northern Ireland. Antimicrobial Stewardship will reduce inappropriate use of these medications which may in turn, reduce instances of *Clostridium difficile* and other resistant infections. The aim of this audit was to review prescribing and promote the principles of Antimicrobial Stewardship in the OOH setting.

Method

A random sample of 100 consultations from February 2017, were reviewed against a modified set (to allow for the OOH setting) of the HSCB Antimicrobial Audit criteria.²

Results

Compliance with the antimicrobial choice in the NI Formulary was 71%. Of the total session antimicrobial prescriptions, 50% are issued between 6 and 7pm when the OOH Centre first opens on weekdays and 57% are prescribed in a telephone consultation. Allergy status was documented in 40% cases. Post-audit review of the total items issued between Sept and Nov 2018 compared with 2017 showed a reduction of 8.94%.

Conclusion

Prescribing of antibiotics in the OOH setting has challenges not seen in normal GP hours. High demand on the service at opening time may contribute to the high rate of telephone prescribing. Further review work and training in this area is ongoing.

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Overview of the Irish Medication Safety Network

Tighe P¹ on behalf of the Irish Medication Safety Network

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Introduction

The Irish Medication Safety Network (IMSN) is a voluntary, independent group of hospital pharmacy based specialists with an interest in medication safety, including representatives with specialist interest in high risk medications. Our aim is to improve patient safety with regard to the use of medicines. The IMSN was established in 2007 and has over 50 members representing major hospitals in Republic of Ireland, in both the public and private sector.

Activity

The network meets bimonthly to promote the exchange of information on medication safety issues, and to facilitate national and global initiatives to help minimize patient risk. Between meetings, outputs are collated via working groups from different stakeholder hospitals, and including external participant stakeholders as relevant to the subject at hand. Alerts, briefing documents and guidelines are published on www.imsn.ie.

The IMSN acts as medication safety liaison with relevant State bodies e.g. HPRA, HSE, HIQA, NCCP and the Department of Health. The IMSN also forms part of HIQA's expert advisory group for the medication safety monitoring programme.

Annual Conference

The Network hosts an annual conference, generally opened by the Minister for Health, to highlight specific medication safety initiatives at both local and national level. *Conference themes will be highlighted in our poster presentation.*

WHO Patient Safety Challenge

The WHO Patient Safety Challenge – Medication without Harm is to reduce the level of severe avoidable harm related to medications by 50% over 5 years. The IMSN welcomes this global call for action, as we continue to promote the exchange of information on medication safety and facilitate national and global initiatives. For further detail on the work of the Irish Medication Safety Network, visit www.imsn.ie

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Implications for the design of an integrated pharmacy curriculum from a scoping review of integrated health professions curricula

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Background

Integrated undergraduate health professions curricula aim to produce graduates who are capable of meeting current and future healthcare needs. This is reflected in pharmacy education where integration is increasingly advocated by pharmacy regulators as the perceived optimal way of preparing students for registration as pharmacists¹. There is, however, no definition of integration. Integration can be described according to the model i.e. horizontal, vertical or spiral integration. It can also be described by the integrating themes, such as systems-based teaching or by integrative teaching and learning approaches. Harden's integration ladder has been operationalised by The General Pharmaceutical Council as three levels: "fully", "partially" and "not integrated" curricula². This scoping review aimed to explore health professions education literature to inform the optimal design of integrated pharmacy curricula.

Methods

The Arksey and O'Malley scoping review framework was utilised. Ovid MEDLINE, EMBASE, Scopus, Web of Science and ERIC were searched. Models of integration, themes for integration, integrative teaching and learning approaches, and level of integration were defined and supported data extraction.

Results

There were 9696 records screened and of these 137 were included. The majority of studies (n=88) described horizontal integration. Systems-based teaching (n=56) was the most common theme reported. Various integrative teaching and learning approaches were described, including experiential (n=43), case-based (n=42) and problem-based (n=38) learning. The majority of the curricula could be classified as levels 5-7 on Harden's ladder (n=102). Perception outcomes were reported for 81 studies, and only 3 reported outcomes beyond perception. Reported outcomes were generally positive and included knowledge gains and increased motivation.

Discussion

Various themes for integration and integrative teaching and learning approaches are used. A lack of evidence for integration remains due to reliance on perception data. There is a need for integration to be explicitly defined by curriculum developers and researchers. Attention should be given to model, theme, teaching and learning approach, level of integration and outcomes.

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Medication Incidents Reported by Irish Acute Hospitals, 2017 – 2018

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Introduction

A medication error is a preventable event which may lead to inappropriate medication use or patient harm.¹ The annual incidence of medication errors in the NHS in England has been estimated at 237 million, while the estimated annual cost of avoidable adverse drug reactions is £98.5 million (€114.4 million).¹

Aims

The aims of this study were to (i) quantify the number of medication incidents reported in Irish acute hospitals in 2017 and 2018, (ii) identify the staff groups reporting, (iii) determine where in the medication use process incidents were occurring, (iv) establish the medication groups at ATC level 3, and the medications by generic name, most frequently identified in medication incident reports.

Methods

The State Claims Agency (SCA) hosts the National Incident Management System (NIMS) on behalf of the Health Service Executive (HSE) and other publicly funded healthcare providers. The NIMS database was searched for all medication incidents reported (created) by Irish acute hospitals in 2017 and 2018.

Results

The search revealed that there were 10,515 medication incidents reported by the acute care system in 2017 and 10,274 in 2018. This represented 27.4% of all clinical incidents in 2017 and 24.9% in 2018. Medication incidents were reported by allied health professionals (54% in 2017; 49% in 2018), nursing / midwifery (39%; 45%) and medical staff (4%; 4%). The majority of reported medication incidents occurred at the prescribing stage (59% of all incidents in 2017; 54% in 2018) and the administration stage (29% in 2017; 34% in 2018) of the medication use process. The medication groups at ATC level 3 most frequently reported in medication incidents were antithrombotic agents (1019 incidents in 2017; 1151 in 2018) followed by opioids (497 in 2017; 505 in 2018) and penicillins (436 in 2017; 507 in 2018). Medications most frequently identified in these reports included enoxaparin (292 incidents in 2017; 350 in 2018), paracetamol (168 in 2017; 275 in 2018) and amoxicillin / clavulanic acid (199 in 2017; 209 in 2018).

Conclusion

Medication incidents are common in Irish acute hospitals. By shedding light on where in the medication use process incidents are occurring and the medications most frequently implicated in medication incidents, this study will enable the acute healthcare system in Ireland to target safety initiatives at the processes and the medications where they are likely to have most impact in terms of patient safety.

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Pharmacist interventions at discharge and the quality of older patients' care: A systematic review

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Background

Maintaining continuity of care is crucial to improve the quality of patients' care¹. The aim of this review was to examine the evidence base for the pharmacist's role in the discharge process of older adults from hospitals and its effect on the patients' quality of care.

Methods

Nine databases were searched systematically from inception to date, for published articles using the appropriate search strategy for each. A search for grey literature was conducted on eight further websites. No filters or restrictions such as language or dates were applied.

Only prospective randomized or quasi-randomized controlled studies involving patients > 65 years of both genders, discharged alive from a hospital setting, were included. The criteria outlined in the Cochrane Handbook for Systematic Reviews of Interventions² formed the basis of the assessment, conducted using RevMan 5.3.

Results

9738 articles were obtained: 8120 unique articles after duplicate removal. Following screening, 13 studies were identified for inclusion. Interventions comprised patient counselling at discharge, medication review and follow up. Of these, 10 were delivered by pharmacists alone, while the remainder were delivered by pharmacists within a multidisciplinary team. Outcome measures included readmission rates, length of stay, medication adherence and care quality.

Ten studies showed significant improvements over standard care, e.g. a decrease in hospital admissions (0.68 OR, $p=0.002$)³ and a 47% reduction in emergency department visits (95% CI, 0.37-0.75)⁴.

However, three studies did not report positive results: two reported non-significant improvement but the third reported poorer readmission rates.

Conclusion

The majority of pharmacist interventions at discharge significantly enhance patients' quality of care. The findings should prove valuable to decision-makers when planning or improving discharge and post-discharge services.

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Trainers Perceptions of their Training Needs on the new MPharm degree: A Survey

Background

The new MPharm programme is now in its fourth year, with 385 pharmacists accredited as trainers on the APPEL trainer programme. It is time to review the training received by these trainers and what their perception of their future training needs are, based on their experiences as a trainer on the MPharm degree. This research is being conducted in collaboration with the School of Pharmacy, Strathclyde Institute of Pharmacy & Biomedical Sciences, (SIBS). The researcher is Ruth McCarthy, Practice Educator, School of Pharmacy, UCC, whose role is to support student experiential learning placements.

Aims & Objectives

The aim of the study is to investigate trainer's perception of their training needs. Trainers play a key role in experiential learning (EL) for pharmacy students, forming a bridge between the University and practice, and preparing students to apply the skills they have learnt in the classroom, to the real-world. With the introduction of the new 5-year integrated pharmacy programme, there is a greater need for EL trainers, and a greater need for trainers who are skilled not only in practice but also in education. There is however a lack of studies conducted in Ireland and the UK which have determined the training needs of trainers of the current EL programmes. This research will be of great importance to the School of Pharmacy, UCC as we roll out our new programme and, to identify gaps and areas for improvement.

Methodology

This is a quantitative study of pharmacy student trainers to identify their training needs. Participants will be registered working pharmacists, who have experience as EL trainers on the new MPharm programme. An email with a link to the online survey, as well as the Participant Information Sheet, will be sent to potential participants.

Results

TBC – research will be conducted over the summer of 2019

Discussion

TBC – research will be conducted over the summer of 2019

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Doctors Prescribe, Pharmacists Dispense and Nurses Administer!

Caredoc is an out of hour's family doctors service for patients who need to contact a doctor after surgeries close. In April 2016, the Board of Directors decided to include a pharmacist in the Clinical Governance Team.

Work with others (FIP Goal 8)

The Caredoc team consists of clinical nurses, triage nurses, member GPs and associate GPs. It has taken three years for us all to agree that the doctors prescribe, the pharmacist dispenses and the nurses administer medication. We work to ensure that prescribing is in line with best practice both nationally and internationally.

Develop competencies (FIP Goal 5)

Working in an organisation such as Caredoc provides opportunities to develop competencies outside of patient care and dispensing medicines such population health, teamwork and most importantly for me, Medicines Optimisation!

There is no blueprint available for the pharmacist role in an out of hour's service. Patient care is limited to what can be done on the day. I am working to introduce and develop medicine optimisation and encourage the team to practise accordingly.

Conclusion

It is obvious that pharmacists can slot into any team in any organisation, once we realise that we are autonomous health care professionals who are as entitled to be there as anyone else. When it comes to expanding the role of the pharmacist, we need to think outside of the box but we also need to be open to sharing details.

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Evaluating a Clinical Pharmacist Service in a Residential Care Unit

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Background: This study assessed the pharmacist role in an 80 bed residential care unit by (1) Quantifying the number and type of pharmacist interventions made and their acceptance rate, (2) Assessing impact of pharmacist interventions on patient care and (3) Assessing staff attitudes towards the clinical pharmacist service.

Methods: This was a non-blinded, non-comparative evaluation of the existing clinical pharmacist service in the unit. All residents were included. All pharmacist interventions over a 10-week period were recorded, then graded according to the Eadon scale¹ by a consultant gerontologist and an experienced pharmacist to assess their impact on patient care.

Results: There were 615 pharmacist interventions. The most common interventions were: Drug Therapy Review, 34% (n=209); Technical Prescription, 26.5% (n=163); Administration, 15.3% (n=94); Drug Interaction, 10.4% (n=64) and Medication Reconciliation, 8.5% (n=52).

98% (n=596) of interventions were rated as having significance to patient care, of which:

- 48.4% (n=298) and 41.8% (n=257) of the interventions rated as 'significant and resulting in an improvement in the standard of care'
- 1% (n=6) and 0.5% (n=3) rated as 'very significant and preventing harm'.

There was a statistically significant agreement between the evaluators, kw = 0.231 (95% CI, 0.156 to 0.307), p < .0005. The strength of agreement was fair.

Of interventions requiring acceptance by medical team (n=335), 89.9% (n=301) were accepted.

95% (n=36) of staff who responded agreed or strongly agreed that improved patient safety resulted from the pharmacist's involvement in multidisciplinary medication reviews. Over 92% (n=35) agreed or strongly agreed that their experience of the pharmacist was positive.

Conclusion: The pharmacist has an important role in our residential care unit. Their involvement in the medicines optimisation process positively impacts patient outcomes and prevents harm. Staff perceived a positive impact of the clinical pharmacist service provided on patient care and patient safety.

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Use of pharmacy services in community-dwelling middle-aged and older adults in Ireland Moriarty F^{1,2}, Flood M²

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Introduction

Pharmacy has a potentially significant role in meeting the escalating need for healthcare, particularly with population ageing and shifts to more community-based care under Sláintecare reforms. The role of community pharmacists has evolved in recent years in Ireland with the expansion in pharmacy services offered. This study aims to assess pharmacy services use among adults aged ≥50 years in Ireland, and determine the demographic and clinical factors associated with pharmacy services use.

Methods

This cross-sectional study included community-dwelling participants in wave 4 of The Irish Longitudinal Study on Ageing (TILDA) aged ≥50 years who were self-respondents (i.e. proxy respondents were omitted). Data for wave 4 was collected during 2016. TILDA participants were asked if they availed of any of a number of named services when visiting the pharmacy in the last 12 months. These included: requesting advice about medication; vaccination; blood pressure (BP) or cholesterol checks; advice on smoking cessation or weight management advice; and diabetes, asthma, or allergy tests. We considered age, sex, educational attainment, GP utilization, medical card and private health insurance status, loneliness, polypharmacy, use of high risk medications (anticoagulants, NSAIDs, opioids, diuretics, antiplatelets, antimicrobials, insulin and hypoglycaemics) and comorbidities. Multivariate logistic regression was used to examine the association of these with reporting (i) any pharmacy service use and (ii) requesting medicines advice.

Results

This study included 5,782 participants, 55.5% were female with a mean age of 68 years. 96.6% of participants (5,587) reporting visiting a pharmacy in the previous 12 months, and almost one quarter of these (1,323) availed of at least one specified pharmacy service. The most common services reported were requesting advice about medications (786, 13.6%), blood pressure monitoring (184, 3.2%), and vaccination (166, 2.9%). Compared to those not using any services, service users were a similar age (mean 68 years), but were taking more medications (mean 3.6 versus 2.8), were more often female (64.1% versus 54.2%), had higher educational attainment, and had higher GP visit rates.

Controlling for other factors, the following were associated with a high likelihood of availing of pharmacy services: female gender (odds ratio (OR) 1.32, 95%CI 1.14-1.52), third level education (OR 1.85, 95%CI 1.51-2.27), higher rates of GP visits, private health insurance (OR 1.29, 95%CI 1.07-1.56), higher number of medications, loneliness, and a diagnosed respiratory condition (OR 1.42, 95% CI 1.14-1.74). The relationship between these factors and requesting medicines advice were similar.

Discussion

A high proportion of middle-aged and older adults visit community pharmacy and a quarter avail of specified pharmacy services. Despite advances in the services offered in pharmacies, medicines advice remains at the core of pharmacists' practice. Those on multiple medications, who may derive greater benefit from such services, are more likely to avail of them. Number of GP visits was also associated with service use, suggesting patients may avail of pharmacy services as a complement, rather than a substitute, to visiting their GP. Services were more often used by people who are lonely, and pharmacists should consider interventions to support these people.

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Planning PACT delivery and training capacity

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Introduction

The benefits, delivery and rollout of the TUH PACT service have been described^{1,2}. PACT pharmacists must have 3 years post-registration experience, a postgraduate (PG) qualification and complete our PACT training and validation programme which includes General Level Framework (GLF) competency assessment³. Challenges include ensuring sufficient PACT-ready pharmacists and tutoring capacity to deliver the PACT competency and validation programme.

Objectives

To calculate the no. of PACT pharmacists and PACT-trainees needed. To evaluate the tutoring hours to deliver the PACT training and validation programme. To future-proof PACT delivery and ensure a steady stream of PACT-trainees.

Methods

A working group calculated the numbers of PACT pharmacists and PACT-trainees required based on learning from service delivery 2015-2017 and SPHA FTE⁴ standards vs. speciality patient numbers for 9 months of 2017. Tutoring requirements were estimated based on training records from 2014-2017. The anticipated pipeline of PACT trainees was calculated. Strategies to future-proof PACT service delivery and training were considered with the Pharmacy Management Team.

Results

The minimum required number of PACT pharmacists is 11 and PACT trainees is 10. The target number of trained PACT pharmacists is 14 rather than 11 to allow for leave and acting into other roles. A pipeline of four Year-3 basic grade trainees at any time will future-proof vacancies arising via pharmacist turnover and re-assignment. The expected completion of PACT validation by PACT trainees is anticipated to match service delivery requirements.

Future-proofing strategies include the allocation of additional PACT tutoring resource; the regrade of two PACT posts from basic to senior grade; and preferential support for PG courses which incorporate GLF competency assessment;

Conclusion

A strategy has been developed to future-proof PACT service delivery. We will advocate for external validation and national competency and foundation programmes.

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Antimicrobial competency frameworks for healthcare professional education: A systematic review

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Background

Education on antimicrobial resistance (AMR) and responsible antimicrobial use has been identified as a strategic objective in a recent WHO Global Action Plan on AMR and in Ireland's National Action Plan.^{1,2} These strategies have highlighted the importance of competency-based education for antimicrobial stewardship.

Objective

To assess and synthesise the literature on antimicrobial competency frameworks for undergraduate, postgraduate and practising healthcare professionals' education in the fields of Medicine, Pharmacy, Dentistry and Nursing.

Method

A systematic search of PubMed, EMBASE and CINAHL electronic databases was conducted. Free text searches were also conducted on Google Scholar, WHO website, Public Health England and on the reference list of included studies. Articles were included if they described an antimicrobial competency framework or development of same. Initial screening of the titles and abstracts was conducted by author FA as per inclusion and exclusion criteria. A consensus on the decision for final inclusion was reached by all authors. This search was conducted according to PRISMA guidelines.³

Results

The search retrieved 1571 records which were screened by title and abstract. From these, 39 studies underwent full text review. Preliminary findings have shown that studies are originating primarily from the UK and are published from 2012 onwards. In general, development of these competency frameworks involved multidisciplinary expert panels. Further results will be presented.

Conclusion

This is an emerging area of research in antimicrobial stewardship. Further investigation into the implementation and impact of these frameworks would be warranted.

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Dynamic Purchasing System; a joint initiative by Pharmacy and Procurement.

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Introduction

The World Health Organisation defines pharmaceutical procurement as a complex process (1999). In Irish public hospitals Pharmacists manage this process in compliance with National Medicinal Products supply legislation. However, the advent of European legislation (2014) has increased this complexity. The Health Service Executive (HSE), as the largest direct purchaser of medicines in Ireland is also required to comply with National Financial Regulation. A HSE procurement of drugs internal audit in 2016 identified non-compliance with the EU Procurement Directive. To support the integration of Pharmacy, Procurement legislation and financial regulations, introduction of a Dynamic Purchasing System (DPS), an electronic procurement framework, is proposed. Consultation with Northern Irish colleagues on their experience of a DPS has benefited the HSE team.

Aims

The DPS aims to support Irish public hospitals to achieve compliance with Pharmacy, Procurement legislation and financial regulations as well as achieving the best value from the purchasing of medicines for the Irish health service, while having regard for patient safety.

Methods

A pharmacy team worked with national procurement specialists to build and implement the DPS. It acts as a framework to pre-qualify suppliers of medicines for participation in tenders and other competitive procurement processes by hospital pharmacies. Pre-qualification considers purchase for safety as well as financial regulatory compliance.

Medicines listed on the DPS as having a “sole supplier” can be compliantly purchased via direct negotiation once a Prior Information Notice (PIN) has been issued. Where multiple suppliers are available, a mini tender may be run by a hospital pharmacy department, a hospital group or a national agency. A list of drugs and a suite of tender templates are available on the DPS.

Conclusion

Close working by Pharmacy and Procurement Leadership is central to DPS implementation. The DPS supports legislative compliant procurement of medicines. Patient safety is supported by compliance with regulatory and medicines standards.

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Selecting outcomes for inclusion in a pharmacy led diabetes educational intervention: a literature review

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Background

Type 2 diabetes is a multi-factorial condition with long-term complications and multiple risk factors¹. Within Ireland, a social disparity gradient is evident with disadvantaged populations demonstrating increased behavioural risk factors², a higher diabetes prevalence³ and low levels of Health Literacy⁴. Pharmacists worldwide are increasingly taking on health promotion. We are designing a pharmacy intervention to empower self-management in people living with type 2 diabetes through an education programme available in their community, including a family and mobile technology component as recommended by HIQA⁵ and Sláintecare⁶.

Objective

The aim of this study is to review potential endpoints for use in a structured education intervention targeting people living with type 2 diabetes.

Methods

A literature review was carried out of peer-reviewed publications to identify relevant studies where pharmacists or pharmacy staff deliver an intervention relating to people with diabetes health outcomes. Grey literature was also reviewed to extract any related health system priorities which may inform the intervention protocol.

Results

The outcomes were grouped as clinical endpoints, health literacy outcomes and professional outcomes. Clinical endpoints included glycaemic measurements and events, medication and device use and weight. Health literacy was measured qualitatively using REALM-SF score and Newest Vital Sign (NVS). Professional outcomes included effectiveness of pharmacists in delivering health behaviour change and development of new reimbursement structures in community pharmacy.

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Key infrastructure needed for a successful community pharmacy foundation programme

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Introduction

Evidence from the pharmacy workforce review shows the widespread despondency of pharmacists working in the community sector. There is recognition that action must be taken to incentivise newly qualified pharmacists to pursue a career within community pharmacy. Chief Pharmaceutical Officers in England, Scotland and Wales have expressed a desire for all pharmacists to undertake a foundation programme¹. Could this be the 'carrot' required to incentivise the community pharmacy workforce in N. Ireland?

Method

With over 10 years experience of delivering a foundation programme for pharmacists practising in the hospital pharmacy sector, NICPLD introduced a programme specific to community pharmacists in 2016. The programme is based on the Royal Pharmaceutical Society Foundation Pharmacy Framework and focuses on in-practice training and experiential learning in the workplace. During the in-practice training, pharmacists develop a portfolio and undertake practice activities to develop and demonstrate their competence. Development is also promoted through workshops and case-based discussions delivered in the evenings to facilitate attendance. A peripatetic mentor/education supervisor employed by NICPLD provide workplace support to programme participants.

Results

Pharmacists who have completed the programme have reported increased confidence and competence. They also report that they now have a more clinical focus to their professional practice. The roll out of the programme to a larger number of community pharmacists could bring such advantages, thus addressing national aspirations and improving the morale of the workforce. To enable this to happen, community pharmacists would require protected time to enable them both to attend workshops and to undertake practice activities within the workplace. A network of mentors would also be required to provide sufficient support to pharmacists undertaking the programme. The Community Foundation Programme would also need to be recognised by all stakeholders as the first step in the career pathway for community pharmacists.

Conclusion

The widespread introduction of a foundation programme to the community pharmacy sector would require considerable resource but may be one component in addressing the current discontent reported within the sector.

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Survey of Community Pharmacists' Views and Experiences regarding Generic Substitution of Medicines in Ireland.

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Background:

The Health (Pricing and Supply of Medical Goods) Act 2013 introduced a system of generic substitution and reference pricing in Ireland. This legislation permits pharmacists in Ireland to substitute prescribed medicines for suitable generic equivalents provided that they have been deemed as safely interchangeable by the Health Products Regulatory Authority (HPRA). The HPRA is responsible for maintaining a "List of Interchangeable Medicines", and the Health Service Executive (HSE) specifies suitable reference prices.

Aims and Objectives:

To ascertain community pharmacists' views and experiences regarding generic substitution of medicines in Ireland and to evaluate their perceptions of both prescriber and patient reasoning for non-substitution. To determine the predominant drug classes involved in non-substitution according to their Anatomical Therapeutic Chemical (ATC) Classification code, and potential hypersensitivities from excipients within.

Methodology:

An online, anonymous survey was distributed to 120 independent pharmacies across 22 counties in Ireland. City, town and rural locations were involved in the study. Community pharmacists were invited to participate. Quantitative data was analysed using SurveyMonkey, Microsoft Excel and IBM SPSS Statistics package.

Results:

A total of 46 responses were obtained over the 7-day period, with 37 surveys fully complete. Pharmacists' perceptions on the equivalence of generic medicines to their relevant originator medicine, and their confidence in performing generic substitution was positively observed in the survey. Barriers to generic prescribing included patient request, narrow therapeutic index (NTI) drugs and hypersensitivity to excipients, whilst patient mistrust in generic medicines was a major barrier to patient acceptance. Patient acceptability was a concern for pharmacists when substituting medicines, although 86.5% of pharmacists reported that generic substitution recommendations made by them were well accepted.

Conclusion:

Community pharmacists in Ireland have positive opinions and experiences with regard to generic substitution. Concerns were evident relating to patient acceptability, hypersensitivity, patient confusion and patient and prescriber mistrust in generic equivalence. Proton Pump Inhibitors (PPI) and statins were the two most frequently requested medicines for non-substitution. Communication and education are two key interventions that will help maximise generic substitution in Ireland.

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Comparison of medication appropriateness assessment criteria and tools in older patients and frail older patients: A systematic review

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Introduction: Ageing affects patients' functional reserve, which makes them more susceptible to stressors¹. Moreover, polypharmacy and potentially inappropriate medications (PIMs) are common² and associated with adverse clinical outcomes in geriatric patients³. Suboptimal prescribing and PIMs therefore have been a key focus for researchers and clinicians. Many criteria exist to support identification of inappropriate prescribing in older patients. This review aimed to compare such criteria in terms of their development process and their content.

Methods: A systematic literature review was conducted in PubMed, CINAHL, EMBASE, Scopus and grey literature, covering English language publications from 1991 to 2018. The search terms concerned the concepts of inappropriate prescribing, criteria development/validation, and older patients (aged 65 years or more). Articles were included for final data analysis if they represented the original publication of (1) an explicit list addressing the suitability of medications from multiple classes or (2) an implicit instrument focusing on the principles of appropriate prescribing. Articles were excluded if they focused solely on specific medication classes or conditions.

Results: From 3476 articles screened, 47 fulfilled the inclusion and exclusion criteria. These described 45 separate tools, two of which had an additional variant designed for a specific setting or cohort, yielding a total of 47 distinct tools. Forty-two tools (89%) encompassed explicit statements. Most criteria had been developed using Delphi and modified Delphi methods (31, 66%). Around half of the retrieved sets of criteria (23, 48.9%) were not limited to a particular setting, with the remainder targeting specific cohorts (e.g. patients in long-term residential care). Twenty-seven (57.4%) were designed for patients ≥ 65 years, four for ≥ 70 years and six for ≥ 75 years; the remainder were targeted at older patients but did not set a specific age range. Nearly all tools were designed to measure inappropriate overprescribing, with only eight (17%) addressing medication underuse. No explicit or mixed explicit/implicit criteria addressed medication cost as an inappropriate prescribing issue and no implicit tools assessed underprescribing in older patients.

Conclusion: No single set of criteria serves as comprehensive guidance to identify potentially inappropriate medications in vulnerable older patients. However, our review should constitute a valuable guide for clinicians and researchers seeking to distinguish between the scope and merits of individual tools.

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Multi-stakeholder Development of a Biological Medicines Guideline for Health Service Executive (HSE) Acute Hospitals.

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Introduction

Biosimilar medicines bring opportunities for increased value for providers and improved access for patients as a result of increased market competition. The uptake of biosimilars has remained low in Ireland and the potential benefits have not yet been fully realised. Local guidance has been identified as a key driver to facilitate uptake^{1, 2} and lack of national guidance was identified as a potential barrier to uptake in Ireland. To address this, AHDMP convened a *National Steering Committee for Biological Medicines in Acute Hospitals* with an initial aim of producing a guidance document for use in Irish hospitals.

Methods

Steering Committee members were nominated to ensure representation of all key stakeholders including clinicians, finance, patients, pharmacists, and procurement. Some biological medicines with a biosimilar available are prescribed in secondary care and supplied in primary care on the PCRS High Tech Drug Scheme; members were nominated to ensure cross-sectorial representation.

Results

Guidance was produced and published via the HSE website. From published evidence, the following areas were identified as key for driving biosimilar uptake: procurement, prescribing, incentives, and education. The AHDMP produced recommendations for best practice in each area for inclusion in the guidance which was approved by the Steering Committee.

Conclusion

Pharmacists effectively engaged with stakeholders from multiple disciplines and sectors of the healthcare system to produce evidence-based guidance to support healthcare professionals implement change. The biological medicines guidance was developed in response to an identified barrier to biosimilar uptake. Implementation of the recommendations in the guidance will improve value for the health service and improve patient access to both new and existing treatments.

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An Exploratory Study to Investigate wastage of ADHD medication supplied by NHSCT

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Aim

The aim of this project was to explore the most practical method to determine medication wastage.

Methods

Dispensing data was analysed for drug wastage and sub-divided into avoidable and unavoidable. The average prescription length of a 10% sample of patients was calculated, a patient survey was carried out to elicit further insight into reasons for wastage and patient returns were analysed.

Results

From April 2017 to March 2018 the identified total of waste was £5470.68 (1.29% of total spend) and 82% of this was avoidable. The value of patient returns was £838.33. The average prescription length of the sample was 8.2 weeks and was 9.3 weeks in patients who received single supplies. Out of 15 responses, 3 reported there was medication wasted in the last 12 months.

Discussion

There was a low level (1.29%) of identifiable waste. This demonstrates that the prescription and dispensing management is not contributing significantly to waste. The main reason that patients reported drug wastage was a change in dose or a medication change. To improve efficiency and user experience there may be a potential to increase prescription lengths to 12 weeks for patients who are established on these medicines. Literature in this area shows shorter prescription lengths could potentially reduce medication wastage, but they may also increase dispensing fees and/or the time burden of issuing prescriptions.¹ In addition, there is emphasis on the need to supply smaller quantities of medication for patients who are being treated for the first time to decrease wastage.²

Future Work

This project and the methods used could also be used to carry out more comprehensive studies and research in ADHD medication and other areas of prescribing and dispensing within the trust.

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How do we recognise Continuing Education within a Continuing Professional Development system that is reflective and outcomes-focussed? A case study from Irish Pharmacy

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Background

The Pharmacy Act 2007 requires that all pharmacists registered in Ireland must engage in continuing professional development (CPD). The Pharmaceutical Society of Ireland (PSI, the pharmacy regulator) commissioned a Review of International CPD models (2010)¹ in order to develop a CPD system informed by best international practice and experience. This resulted in the establishment of the Irish Institute of Pharmacy (IIOp) in 2013 to develop, implement and manage this CPD system. CPD was subsequently defined in the statutory instrument² as being “*systematic, self-directed, needs-based and outcomes-focussed, based on a process of continual learning and development with application in ... professional practice*”. This poster describes the main components of the resulting CPD system, and describes how continuing education (CE) is recognised within this system.

Methods

The CPD system in Ireland constitutes four key elements:

- The IIOp ePortfolio: Pharmacists have a statutory obligation to use the IIOp ePortfolio to plan and record their CPD². This enables pharmacists to record CE activities within a reflective cycle framework.
- ePortfolio Review: Each year, 20% of pharmacists will be required to submit evidence from their ePortfolio to demonstrate compliance with the CPD requirements as statutorily defined.
- Practice Review: Each year a percentage of pharmacists who work in patient facing roles will be randomly selected to attend a review centre, to ascertain if they can demonstrate an appropriate level of competence when dealing with a set of standardised situations.
- Accreditation of CE: The IIOp is responsible for the accreditation of CE. Pharmacists who wish to provide certain services, e.g. vaccinations, administration of emergency medicines, must have undertaken and achieved certification in relevant CE courses.

Results

The CPD system for pharmacists in Ireland is at an early stage of development. The ePortfolio has been fully operational since March 2015. Almost 3,000 pharmacists have been selected for ePortfolio review since 2016. Three Practice Reviews have been held since April 2018. Thousands of pharmacists have completed and achieved certification in CE courses accredited by the IIOp. The system, in its entirety, focuses on outputs (impact on practice) rather than inputs (CPD points) whilst recognising the importance of high quality CE in shaping pharmacy practice in Ireland.

¹ Review of International CPD Models Pharmaceutical Society of Ireland, June 2010

² Statutory Instrument S.I. No. 553 of 2015: Pharmaceutical Society of Ireland (Continuing Professional Development) Rules 2015

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Exploration of how a medication adherence simulation may enhance empathy in undergraduate pharmacy students

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Introduction

Empathy is considered a core component of effective healthcare provider-patient relationships, with benefits for both patients and providers when empathy is demonstrated.¹ Simulation-based learning activities are increasingly used by educators as a pedagogical approach to foster empathy development.² This study seeks to explore student engagement with an adherence simulation and explore the development of empathy.

Methods

First-year pharmacy students (n=61) were provided with a labelled container with a month's supply of simulated medication (jelly-beans) and instructed to take one daily 30 minutes before food. They were also instructed to adhere to a social prescription for exercise that aligned with the World Health Organisation recommended physical activity levels. After four weeks, a mixed-methods evaluation comprising of a survey and facilitated debriefing session aligned with Morse's definition of empathy to explore their attitudes towards the simulated activity and impact on empathy development, was completed.

Results

56/61(92%) students completed the simulation evaluation. Self-reported adherence rate for the simulated medication was high at 79% (75-83% 95% CI) and 70% (63 - 77% 95% CI) for the exercise prescription. The majority of students (69%) agreed that they found the simulation a valuable learning experience, and better understood the challenges for patients taking long-term medications (81%). Analysis of narrative responses recorded during the facilitated debrief suggest an impact on all four domains of empathy.

Conclusions

First-year undergraduate pharmacy students had positive affective and cognitive attitudes to a simulated adherence exercise. The mixed-method evaluation suggests an increase in empathy across several domains. Simulation activities may provide an early opportunity to mirror experiential learning to understand the patient's perspective of medication taking and encourage empathic consultations.

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Identifying and addressing the challenges of diabetic management in the RVEEH

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Background

The Royal Victoria Eye and Ear hospital (RVEEH) is a specialist ophthalmic and ENT hospital with an annual throughput of >100,000 patients per year (incl. day cases and outpatient attendances). A high proportion of patients attend diabetic-related ophthalmic complications.

The increasing prevalence of diabetes¹, coupled with evolving pharmacological management, creates a challenging environment for healthcare staff in which to provide sustained, quality safe care. Scope for improvement was suspected and required further investigation.

Addressing the Issue

Addressing this challenge firstly required identification of potential risks, achieved by crossdepartmental analysis of the diabetic patient pathway, patient engagement, retrospective incident and healthcare record review and a multidisciplinary staff survey.

Collation of these results, along with utilisation of best practice guidance from the Association of Anaesthetists² and the Joint British Diabetic Societies for Inpatient Care (JBDS-IP)³ highlighted key areas to focus on, e.g. pre-operative information supplied to patients. A number of actions were taken to address issues identified:

- Educational support – formal electronic learning module implemented for induction of staff;
- Amendment to hospital documents/literature - the medication administration and prescription record (MPAR) and patient pre-operative information leaflet;
- Implementation of medication protocols for management of hypoglycaemia;
- Review and update of peri-operative medication guidance for patients, nurses and clinicians. Tasks were directed by our Drugs, Therapeutics and Antimicrobial Stewardship Committee.

Proposed Outcomes

The expected outcomes are both subjective (improved staff confidence in managing diabetic patients) and objective (e.g. reduced incidence of unnecessary alterations to patient's medication in the peri-operative period). These outcomes will be assessed respectively by resurveying healthcare staff and establishment of a robust audit structure for ongoing monitoring.

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Partnering with patients in the creation of online resources for interprofessional education

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Introduction

Collaborative practice happens when healthcare professionals work together with patients and families to deliver the highest quality of care. This is the optimal model for paediatric care, with children and families included as partners within the healthcare team. Interprofessional education (IPE) is seen as a necessary step towards collaborative practice. We sought to explore how best to prepare our students for paediatric collaborative practice, harnessing the unique interprofessional learning opportunities in paediatric care. This also required navigating logistical IPE challenges such as asynchronous curricula, unequal class sizes and delivery across international campuses.

Methods

We collaborated with a parent in creating case-based online IPE. Videos of the parent/child in consultations with a paediatrician, pharmacist, physiotherapist and speech and language therapist were recorded and embedded into an interactive Articulate Storyline® package. Pre-post MCQs and key teaching points covered a range of issues including developmental stages, medication administration and complex communication.

Results

Medical students are currently engaging with the online IPE on a rotational basis and student reaction to the learning is ongoing. Delivery in the pharmacy and physiotherapy curriculum is planned. Currently the learning outcomes for interprofessional collaborative practice are, therefore, obtained uniprofessionally.

Conclusions

The patient-centred online interprofessional activity has provided an opportunity to begin to prepare our students for paediatric collaborative practice. We intend to explore further progression towards learning with others, and evaluate the outcomes at a higher level.

A study to evaluate patients' understanding of biosimilars and to assess if a switch to the biosimilar of Infliximab could be cost effective for Cavan General Hospital

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Introduction: The first biosimilar was approved for use in Europe in 2006; since then the portfolio has grown and in this time the safety profile of biosimilars has been consistent with the reference products and the product class.¹⁻³ Despite this, uptake in Ireland has been poor; it has the second lowest record of biosimilar use in Europe.⁴ Reasons for the poor uptake include a lack of prescriber and patient understanding and acceptability. Whilst prescriber opinion has been examined through many studies, patients' perspectives on biosimilar medicines have not been explored to the same extent.⁵⁻⁹

Aims: To explore the familiarity, acceptance and concerns of patients towards a biosimilar of infliximab in an Irish Hospital Setting and to establish what the cost saving potential of an infliximab biosimilar in this setting would be.

Methods: Patients receiving infliximab in Cavan General Hospital were invited to participate in the study by completing a questionnaire, data collection occurred from July-August 2018. Financial reports were also produced from 2014-2017 and cost of bio-original Remicade® compared to the estimated cost of the biosimilar Inflectra®

Results: 17 patients participated in the study. One patient was familiar with the term biosimilar; one quarter of participants would accept a biosimilar and one quarter would not. Patients' main concern was efficacy and the majority of patients see no personal advantage of a biosimilar. Inflectra® offers 20% cost reduction when compared to Remicade®. Dose banding has the potential to reduce expenditure but the clinical implications require further investigation.

Conclusion: Most patients were not familiar with biosimilars, there was mixed acceptability and patients expressed a variety of concerns. Whilst biosimilars clearly offer cost saving there is an immediate need for patient education on biosimilars to provide the key stakeholders with sufficient information to make informed decisions about their own treatment.

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Pioneering an Unconscious Bias Educational Activity with Pharmacy Students

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Introduction

The recent 'Race in the Workplace' review¹ highlighted issues relating to unconscious (implicit) biases, including how these prevent career progression. The pilot study below (considered to be the first of its kind among UK pharmacy undergraduates) aimed to increase awareness of unconscious bias, since making people cognizant of these biases is deemed to be a vital step in addressing the manifestation of them.¹ It also sought to establish whether changes in opinions had occurred by the end of the activity.

Method

All first year MPharm and BSc pharmacy students (n=121) at Queen's University Belfast (QUB) were invited to complete an online and largely self-guided, educational activity on unconscious bias. This comprised several parts, namely: (i) a questionnaire to establish base-line knowledge; (ii) two validated Harvard Implicit Association Tests (IATs) about gender; (iii) a published training video relating to unconscious bias; (iv) re-taking the two IATs and (v) a post-IAT and training questionnaire. A pre-piloted questionnaire previously used for another teaching activity² was adapted for the questionnaires in this activity. Data analysis largely took the form of descriptive statistics; the Wilcoxon signed-rank test was used for before and after (the training) comparisons with significance set at $p < 0.05$ *a priori*.

Results

The initial questionnaire and post-training questionnaire were completed by 99 and 66 students, respectively. Unconscious bias training influenced students' IAT scores in relation to gender-career (3.24 post-training versus 2.83 pre-training, where 1 and 7 indicate biases towards male and female associations respectively; $p = 0.009$). After training, 98.5% stated they fully understood what is meant by the term 'unconscious bias' (compared with 62.6% pre-training). Additionally, 89.4% believed the activity had increased awareness about unconscious bias with positive comments including: "*it encouraged me to make a conscience effort to eliminate bias*", "*my perspective has changed*" and "*it was thought-provoking and taught me about the harm that having certain biases and stereotypes can do.*"

Conclusion

This strategy appeared to be effective for reducing implicit bias and the activity will now be embedded into the undergraduate teaching within the School. However, additional work is warranted to measure the long-term impact of such an activity.

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Content Analysis of UK Pharmacy Fitness to Practise Cases

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Introduction

This study aimed to examine NI and GB Pharmacy FtP (Fitness to Practise) cases, generate summary findings, and determine whether themes or patterns existed. Establishing such information has not previously been done, yet has the potential to inform future teaching, professional guidance and support.

Method

Cases were downloaded (to an encrypted device) from the General Pharmaceutical Council and Pharmaceutical Society NI websites. All NI cases were available whereas only cases published in the last 18 months were available for GB registrants. Content analysis¹ was undertaken including recording information about key parameters (gender, number of years as a registered pharmacist, nature of the case, and outcome). This approach was used in a similar study involving dental FtP cases. Descriptive statistics were done using Microsoft Excel® after content analysis of each case and numerical coding had been undertaken. Inferential statistical analysis was also conducted where appropriate (using Chi-squared test and Mann-Whitney U test, with $p < 0.05$ set *a priori* for significance). Ethical approval was not required; this work used publicly available data only and did not involve animals or human volunteers.

Results

There were 74 FtP cases (21 males and 8 females in NI; 32 males and 13 females in GB). The mean registration was 10.1 years. Suspension was the most common sanction imposed ($n=35$), next was being struck off ($n=32$). Due to the diverse nature and small number of each type of case, no obvious trends or patterns were discernible. Controlled drug (CD) related events (such as theft or illegal supply) accounted for the highest proportion of cases. Others included dispensing errors, confidentiality breaches, dishonesty, enticing a child into a car, inappropriate sexually explicit text messages, pornography, and terrorism. Being struck off the register was not influenced by gender or years registered (Gender: $p = 0.9663$; Years registered: $p = 0.2469$).

Conclusion

This work provides useful baseline data. It highlights concerns for male registrants and learning needs about controlled drugs. Future research should focus on gleaning richer information about why the incidents occurred (from the registrants' perspectives) to enable timely and relevant interventions to be put in place.

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Introduction of purchasing for quality and safety: optimising the skills of the pharmaceutical technician

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Introduction

The purchasing procedures for medications were reviewed in light of the introduction of the Public Sector Procurement – European Union (Award of Public Authority Contracts) Regulations 2016.

Aims/Objectives

To develop and implement a Pharmaceutical Procurement Policy that targets a 'purchasing-for-quality and safety' approach. To identify potential savings and improve the safety aspect of selection of medication preparations. To evaluate the opinion of the medical representatives after the introduction of the Policy.

Methodology

One WTE Basic Grade Pharmaceutical Technician was recruited to lead the project under the guidance of the Chief Pharmacist. A Pharmaceutical Procurement policy was developed based on best available national and international guidance. Data on cost efficiencies and safety were collected. An un-validated Survey Monkey® questionnaire was developed and sent to 12 medical representatives that had engaged with the new procurement processes.

Results

A Pharmaceutical Procurement Policy was developed and implemented. Over 50 lines of medications were reviewed in the first 6 months, with potential savings of €70,000 identified and 20 lines of medications were changed to improve medication safety. There was a 58% (n=7) response rate to the questionnaire with 100% strongly agreed or agreed that *"I am confident that my pharmaceutical products will be considered for selection in WGH."* Additionally:

- 14% strongly agreed, 43% agreed and 43% neither agreed nor disagreed that *"I think the process for selection of pharmaceutical products in WGH is more transparent"*.
- 14% strongly agreed, 43% agreed, 29% neither agreed nor disagreed and 14% disagreed that *"I received feedback on why products are/are not selected."*

Conclusions

A Pharmaceutical Procurement Policy was development and improvements in consistency and transparency of procurement practices were implemented. Improvements in safety and cost effectiveness in the pharmaceutical procurement process were demonstrated.

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Healthcare professional perceptions and opinions on the use of complex intervention tools in healthcare and their potential for use in Hepatitis C patient care.

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Background

Complex healthcare interventions are defined as multicomponent interventions in which individual, collective and organisational elements act both independently and interdependently. The pre-treatment pharmacist assessment (PTPA) is a novel complex intervention toolkit (CIT) which has been designed to support devolvement of HCV treatment to primary care providers including pharmacists.

Aim and objectives

To determine healthcare professional perceptions and opinions on CIT use in healthcare and their potential for use in HCV treatment.

Method

A diverse sample of healthcare professionals (HCPs) working within the specialities of hepatology, infectious diseases and addiction services, in both hospital and primary care settings, were invited to participate. An electronic questionnaire was developed. Data on demographics and knowledge of CITs and their use in healthcare were collected. Qualitative data were analysed using thematic analysis. Quantitative data were analysed using descriptive statistics.

Results

Questionnaires were completed by 25 HCPs (Respondent rate 45%). A mix of HCPs were represented in the respondent group including doctors (28%), nurses (32%) and pharmacists (40%). A high proportion of HCPs reported use of CITs in their current practice (84%). HCPs reported varying understandings of the term CIT. Overall opinions around CIT use in practice were positive. They were seen as useful in decision making, collating patient factors, providing a checklist function and standardising practice. When asked to consider the potential benefit of a CIT to guide optimum HCV treatment selection, HCPs responded positively with 92% reporting this as a useful potential development in HCV care.

Conclusion

CITs are already in widespread use in healthcare settings. Implementation of the PTPA CIT within the HCV model of care was considered acceptable among all grades of HCP surveyed.

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Building capacity within a Hepatitis C treatment model. The validation process for a Hepatitis C pre-treatment pharmacist assessment complex intervention toolkit.

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Background

The pre-treatment pharmacist assessment is a novel complex intervention toolkit (CIT) which has been designed to support devolvement of Hepatitis C (HCV) treatment to primary care providers including pharmacists. It combines all aspects of pre-treatment assessment into a proforma to ensure optimum HCV treatment selection. This study describes the validation process for this CIT.

Aim and objectives

To assess the validity of the pre-treatment pharmacist assessment CIT in achieving selection of the optimum HCV treatment regimen for patient test cases as compared with current standard of practice. Secondary aims included assessing the impact of pretreatment pharmacist assessment CIT use on, time to completion of patient cases, detection of drug-drug interactions (DDIs) and detection of additional patient healthcare interventions.

Method

Pharmacists were invited to participate in this study to review HCV case vignettes using the CIT or standard of care. Participants were divided into two groups using concealed randomisation. A random sample of anonymised test cases were selected from the Irish HCV treatment registry. A sample size of 56 cases per group was calculated. The primary endpoint was selection of the optimum treatment regimen. Secondary endpoints included time to completion, detection of DDIs and patient interventions. Statistical analysis was completed to assess variation between groups.

Results

A total of 56 cases were completed per group. CIT use was associated with selection of optimum HCV treatment in 92.9% of cases, compared with 60.7% of cases in group B ($p < 0.05$). DDI detection rates increased with CIT use (74.8% vs 47.1%; $p < 0.05$). CIT users proposed an average of 3.5 interventions per case versus 2 per case in Group B. The CIT was associated with a longer median completion time (20 versus 15 minutes); however this difference was not statistically significant ($p = 0.06$).

Conclusion

The findings of this study confirm the effectiveness of the CIT in selecting optimum HCV treatment. The potential for pharmacists working in all practice environments in Ireland to make a robust contribution to HCV treatment can be supported using this CIT.

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Prophylaxis and treatment of thrombosis in oncology patients – development of a toolkit to aid clinical decision-making

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Introduction

Venous thromboembolism (VTE) is an established health care problem associated with patients suffering from cancer. Cancer is an independent risk factor for VTE, with an odds ratio second only to surgery¹. It is estimated to be the second leading cause of death in the cancer patient. Treatment of VTE can lead to delays or breaks in treatment, increased need for hospitalisation and an increased economic burden on the patient. Assessment of risk and a guideline to aid treatment in this patient cohort should improve outcomes in this patient group.

Aims

To develop and assess use of a guideline and toolkit based on best available evidence for risk screening and management of thrombosis in the oncology patient.

Methods

Following a baseline audit to assess VTE risk/occurrence and prophylaxis prescribing, a guideline and toolkit to address needs was developed and implemented. This was followed by a repeat audit to assess application of information provided in the toolkit in addition to survey on user satisfaction.

Results

Two of the 65 patients screened post-implementation had a toolkit in their medical notes. Use of the toolkit as a reference guide improved prescribing of appropriate VTE prophylaxis, from 20.5% to 62.9%, $p < 0.0125$, and concurrently reduced the incidence of cases where VTE prophylaxis was not prescribed during admission, from 41.0% to 17.1%, $p < 0.0125$. There was no difference in the sample populations regarding diagnosis of VTE or management of same. When the populations were assessed for other factors potentially attributing to VTE diagnosis, a Khorana Score² of 3 or higher, advanced disease and the presence of comorbidities were associated with increased levels of risk.

Conclusion

Use of a toolkit aided raised awareness among staff and improved patient education on VTE risk. Redesign of the toolkit, along with addition of haematological cancers for assessment, will further aid use and improve prescribing of anticoagulation.

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A Multicomponent Crystal of 5-Fluorouracil and Salicylic acid Formed by Extemporaneous Techniques: A Cautionary Tale

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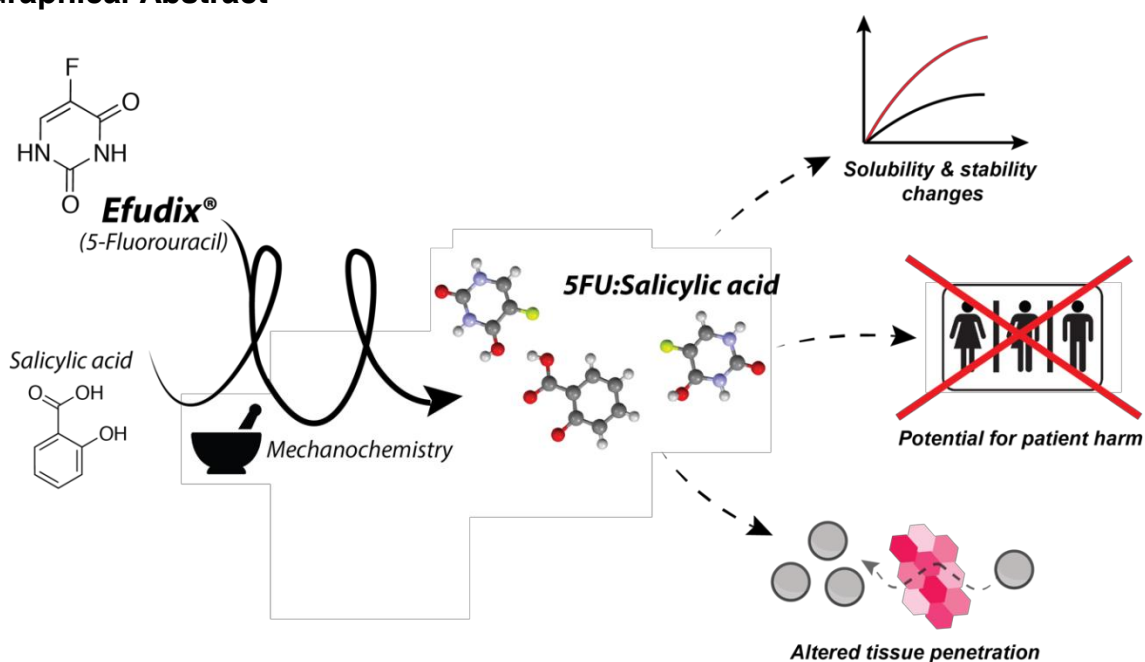
Abstract

The mortar and pestle – for some – a symbol of the past; easily forgotten amongst modern equipment and most often found accumulating dust. In recent times, academics have rediscovered how this ancient apparatus has promising utility within the emerging field of mechanochemistry to develop superior drug substances.

This work illustrates how attempts to improve the membrane penetration performance of 5-Fluorouracil revealed a multicomponent crystal of 5-Fluorouracil with Salicylic acid, with physiochemical properties distinct from the parent molecules. Worryingly, these medicines are compounded extemporaneously which could create this form, which may result in unintended adverse consequences.

We describe how multicomponent forms are developed and how extemporaneous techniques can inadvertently lead to the formation of new solid forms, each with their own distinct physiochemical properties. This reinforces the importance of strong scientific understanding for the contemporary pharmacist. We further outline how knowledge of the solid state can be used to develop superior medicines by exploring how the serendipitous discovery of other multicomponent crystals has led to the development of a multitude of blockbuster medicines such as Epilim® and Lexapro®.

Graphical Abstract



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Is a broad-based postgraduate course suitable for training hospital pharmacists for advanced and leadership roles?

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Background

The M.Sc. in Hospital Pharmacy is a taught, broad-based course that aims *'to train and produce ... individuals who will lead our profession in both clinical and non-clinical roles, working in collaboration with other healthcare professionals'*.

Aims

To determine if the M.Sc. course prepares graduates for more advanced and leadership roles in hospital pharmacy.

Method

A survey link was emailed to 38 graduates from 2006-2013 (SurveyMonkey) with a mixture of 10 open and closed questions.

Results

The response rate was 68% and 100% of respondents had remained in hospital or related posts with over 80% now in a more senior role. 65% were working in clinical roles, and the remainder in non-clinical or combined clinical/non-clinical roles - aseptic production, clinical trials, medicines information and formulary/guideline development. Almost all felt the course had a medium-high impact on their confidence dealing with other professionals (96%) and on their overall job satisfaction (92%).

93% agreed/strongly agreed the course had a medium-high impact on their attaining promotion and that the broad-based content was useful when considering future career options (92%).

The highest rated skills learnt were oral presentation, clinical and research skills, and other useful elements were: tutoring in-house with feedback, face-to-face lectures with clinical specialists, specialist rotation/lectures, peer support. Conversely, the number of assignments/workload were considered challenging. Nevertheless, 92% would recommend the course to other pharmacists.

Conclusion

In an era of specialisation, our broad-based course is achieving its' aim of equipping graduates for advanced/leadership, clinical and non-clinical roles in our hospitals.

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Do pharmacists' attitudes (towards CPD, professional practice and their working environment) impact on the professional practices they engage in?

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Background

Previous studies^{1, 2, 3} have suggested that pharmacists' attitudes towards Continuing Professional Development (CPD), professional practice and their working environment could impact on the professional practices that they engage in; however, evidence to demonstrate this is lacking.

Purpose

To examine the influence of pharmacists' attitudes towards CPD, pharmacy practice and their working environment on their professional practice.

Methods

An online questionnaire was emailed to all pharmacists in Northern Ireland on 22 May 2015 (n = 2201). After two follow-ups there were 419 responses (19%).

Results

Data was analysed using SPSS version 21. Factor analysis was used to identify themes relating to pharmacists' attitudes towards CPD activities, professional practices and their working environment. Multinomial logistic regression was used to determine the impact of these themes on pharmacists' professional practice. Pharmacists with a preference for challenging CPD activities were less likely to engage in practices that can be performed by any member of the pharmacy team. Pharmacists indicating that members of the pharmacy team should maintain their current roles were more likely to engage in essential (reactive) services and less likely to engage in (proactive) extended patient care services. Conversely, those indicating that the skill mix of the pharmacy team could be improved were more likely to engage in (proactive) extended patient care services.

Conclusion

Pharmacists' attitudes towards CPD and pharmacy practice (but not their working environment) had an impact on the professional practices they engaged in.

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The future of clinical foundation training for pharmacy technicians

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Background

Clinical Foundation training for Pharmacy Technicians has been redeveloped several times over the years in NI. The NI Clinical Pharmacy Technician development group highlighted the need for an overhaul of the programme, to both update it and bring it into line with MMAP (Medicines Management Accredited Programme NI). After consultation and discussion, it was decided to create an online course to support the clinical foundation training.

Methods

To begin the project, the existing training package was scrutinised by The NI Clinical Pharmacy Technician development group and compared with the frameworks for MMAP and other national medicines management programmes. The areas of learning were broken down and reviewed to ensure all elements were covered. The workload was shared by the project group and there was plenty of constructive feedback. Once the content was agreed it was further reviewed by the NI Clinical Pharmacy Leads and the Northern Ireland Centre for Pharmacy Learning & Development (NICPLD). The content was then storyboarded, programmed, reviewed and proofed by NICPLD. The supporting paperwork was designed and reviewed alongside the online content and mirrors the MMAP programme paperwork.

Results

A brand new online resource named "Working in a Clinical Environment" has been created to fully modernise and futureproof clinical foundation training for pharmacy technicians. The NI Clinical Pharmacy Leads realised early on during the project that this course could be both used as part of the pharmacy technician clinical foundation training and also as a standalone clinical pharmacy induction for any pharmacy professional. i.e. Pharmacy support staff, pre-regs, foundation pharmacists etc.

Conclusion

This has been a fabulous example of regional collaboration by pharmacy technicians. The online course is currently being used to train all of the pharmacy technicians new to the clinical pharmacy environment. This ensures a consistent approach, accessibility to resources and a high regional standard of training. In addition, the training paperwork matches the MMAP programme, and will prepare pharmacy technicians to undertake reflections, observations and to maintain a portfolio.

A systematic scoping review of interventions to improve appropriate prescribing of oral nutritional supplements in primary care

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Introduction

The clinical implications of malnutrition are considerable and the associated costs are high (e.g. increased morbidity, mortality, healthcare utilisation). Interventions to treat malnutrition include oral nutritional supplements (ONS). It is estimated that between 30-70% of ONS are prescribed without appropriate nutritional assessment. This is not in accordance with prescribing guidelines and has considerable cost implications. The aim of this scoping review is to provide an overview of interventions to support evidence-based ONS prescribing in primary care.

Methods

A systematic scoping review was undertaken. PubMed, EMBASE and CINAHL were searched from inception to September 2018. Search terms included malnutrition and ONS. In order to meet inclusion criteria, studies had to: evaluate interventions targeting ONS prescribing in primary care; use a comparative evaluation (e.g. control group, before/after design); be published in the English language. All outcomes for included studies were documented. Two review authors independently screened abstracts and extracted data using a purposefully-designed data extraction form. Results were summarised using narrative synthesis.

Results

3329 records were screened for inclusion and 10 studies were included in the review. All studies involved an uncontrolled before-and-after design. Interventions ranged from audits of ONS prescribing to policy-level changes involving complete transfer of ONS prescribing privileges from general practitioners to dietitians. Post-intervention study results reported improvements in ONS prescribing as measured by reductions in prescribing levels and a number of studies highlighted potential cost savings associated with reductions in inappropriate ONS prescribing.

Discussion/Conclusion

This review provides the first detailed overview of interventions aimed at improving evidence-based prescribing of ONS in primary care. A range of interventions has been evaluated to date, most commonly involving dietitians. Reporting of interventions was often poor and use of controlled experimental design was lacking. Future research should attend to rigour during the stages of intervention development, evaluation and reporting in order to generate findings which could serve to inform policy and practice relating to ONS prescribing in primary care.

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Impact of the Clinical Pharmacy Team in Fracture and Falls Prevention in Intermediate Care

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Background, Objective and Study Design:

Osteoporotic fractures are a significant health issue in the aging population, resulting in increased morbidity, mortality and significant financial burden on the NHS. South Eastern Trust introduced a consultant led clinical pharmacy service for older people in intermediate care (IC) in 2017. This service included a targeted, preventative approach to falls and fracture prevention.

This study aimed to determine the impact of the pharmacy team in optimising bone protective medication and in reducing falls risk.

The IC team followed NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis to optimise bone protective medication or assess if the patient required referral for bone mineral density (BMD) assessment. A structured medicine review process was also used to reduce falls risk. Patients and/or carers were involved in all treatment decisions.

Over a 3 month period (early 2018) demographic, clinical and drug related data (including FRAX results, dietary calcium intake, pharmacist interventions) were collected on all patients admitted with fracture and / or falls to the IC unit.

Results

Data were collected for 48 patients (aged 84 ± 8.1 years; range 67 to 97 years). 63% of patients were admitted with fracture and 69% were admitted with a history of falls. Risk assessments (FRAX) indicated bone protective treatment was advised in 69% of patients and a BMD scan in 31%. For falls patients with no fracture 33% needed referral for BMD assessment and 67% required bone protective medication. Decisions regarding bone protective medication were made for all patients reviewed including starting, stopping or that no medication was required or contraindicated. A medication review was performed for all patients admitted with falls or history of falls (n= 33) resulting in 28 falls associated medicines being stopped.

Conclusion

The introduction of the IC pharmacy team has had a positive impact in falls and fracture prevention and in delivering a targeted Medicines Optimisation Service.

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Role of the clinical pharmacy technician in seasonal influenza programme in intermediate care.

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Background

Seasonal influenza is an annual occurrence that can vary in timing, degree of spread and severity. To reduce the effects of an influenza outbreak and protect vulnerable patient groups a regional seasonal influenza vaccination programme is in place.

Those defined as “at risk” include anyone aged over 65 years and the regional target for vaccination has been set at 75% of at risk populations.

Objective

SEHSCT has a 29 bedded Intermediate Care (IC) rehab unit supported by a clinical pharmacist and a clinical pharmacy technician. The role of the pharmacy technician was developed to manage the influenza vaccination programme for patients admitted to the IC unit during the 2018 seasonal influenza vaccination programme.

Results

The pharmacy technician identified patients that needed influenza vaccination on admission to the IC unit. The technician verified the patient’s influenza vaccination history and ADR profile to previous vaccination with the patients GP. The technician obtained written consent from the patient wishing to receive the vaccine and alerted the clinical pharmacist who then prescribed and ordered the influenza vaccine. The Department of Health’s target was exceeded as 78% of eligible patients were vaccinated during their stay in the IC unit. To ensure safe transitions of care the technician contacted the patients GP practice post vaccinated to ensure the GP records were updated and vaccination was also documented on the discharge letter.

Conclusion

The IC clinical pharmacy technician can play a valuable role in protecting both IC patients from influenza and the continuity of the healthcare service during the influenza season.

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An observational cohort study of the potential impact of a ward pharmacist in an inpatient medical ward in an acute hospital.

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Introduction

Drug-related problems (DRPs) are common in the hospital setting.¹⁻³ Using the HSE Risk Assessment matrix, DRPs were rated by both Pharmacy and Nursing Staff as an “extreme” “almost certain” risk in UHK’s primary medical inpatient ward. This study aimed to evaluate the potential clinical and economic impact of introducing a clinical pharmacist in this ward.

Aims

(i) Perform medication reviews on and during admission and on discharge, using primary information sources. (ii) Identify, quantify and rate potential pharmacy interventions in terms of their impact on (a) clinical risk, and (b) cost. (iii) Estimate the potential cost benefit associated with the introduction of a clinical pharmacist on the ward.

Methods

In January 2017, medicines prescribed for 52 sequential inpatients were reviewed and risks identified were scored for severity.⁴ The cost of each was estimated using an established method.⁵ Cost avoidance benefits were then calculated.

Results

Findings showed all medical in-patients at UHK were exposed to significant medication-related risks (median = 14) and indicated the introduction of a ward pharmacist would result in a cost benefit ratio of 1:12.

Conclusions

This study suggests a significant positive clinical and economic impact would be associated with the introduction of a ward pharmacist in an inpatient medical ward. It showed brief multidisciplinary studies can produce useful data which can guide decision-makers in developing efficient, cost-effective frontline services.

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An observational study of the potential clinical and financial impact of a Pharmacy Technician in an inpatient medical ward in an acute hospital

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Introduction

Medication management is fundamental to the safe and efficacious delivery of patient care.^{1,2} UHK has no ward Pharmacy service in its 30-bedded acute medical admissions ward, which is a potential risk to patient care as well as elevated direct drug costs and excessive medication waste. In its 2016-2017 hospital *Inspections of Medication Safety*, the Health Information and Quality Authority (HIQA) described roles for Pharmacy technicians in “the procurement, provision and stock management of medicines”. This study explored the potential economic impact of introducing a pharmacy technician-led service in this ward.

Aims

- i Explore cost implications of current ward stock system.
- ii Explore clinical risks associated with the absence of a ward-based pharmacy technician.
- iii Investigate the potential impact of a ward-based Pharmacy Technician on direct drug costs.

Methods

Medication held on the ward was reviewed to quantify (i) excess stock suitable for return to Pharmacy, (ii) excess stock not fit for re-use, and (iii) expired stock. Findings were used to estimate the financial risk associated with the absence of Pharmacy oversight at ward level. A survey of missed/delayed doses also estimated the clinical risk associated with medication management systems at ward level.

Results

Findings showed significant excess ward stocks. In addition, all in-patients surveyed were exposed to the clinical risk of delayed/missed doses and expired ward stock. An estimated net cost saving of €3,000 was associated with the introduction of a 0.5WTE pharmacy technician.

Conclusions

This study suggests a significant positive clinical and economic impact would be associated with the introduction of a pharmacy technician in this medical ward.

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Development and evaluation of a new clinical training programme

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Introduction

In Northern Ireland pharmacists must complete 30 hours Continuing Professional Development each year to remain up-to-date and improve their pharmaceutical care. Opportunities for internal sharing of knowledge and skills are intermittent and there was need to increase training to include core skills development for junior pharmacists.

Aim

To develop a pharmacist training programme and evaluate after 6 months.

Objectives

- To evaluate the self-reported learning needs of pharmacists and develop a sustainable education and training programme
- To increase the number and quality of clinical interventions
- To assess the effectiveness of and satisfaction with the programme.

Method

A questionnaire was developed, piloted and sent to pharmacists via an online tool in June 2018. Using this information a training programme was delivered. After 6 months a repeat questionnaire gained views on the education programme.

Results

Thirty-six pharmacists completed the learning needs questionnaire (60%), Band 6 pharmacists 19%, Band 7 33%, Band 8a 42% and Band 8b 6%. Interactive training was the most preferred learning method and individually directed the least. The review questionnaire was completed by 53% with increased Band 6 response. When asked to rate the programme ≥ 7 out of 10; overall 97%, specialist session 100%, case presentation 72% and Band 6 training 81%. Specialist sessions were highly relevant (88% agreed or strongly agreed), a good use of time away from usual duties (85%) and well delivered (91%). Case presentations were highly relevant (75%). The learning was deemed useful (92%) and pharmacists have changed practice (>70%).

Discussion

The initial feedback from experienced pharmacists provided vital information to develop a new training programme. Feedback showed this to be effective and accepted. Pharmacists have been able to adapt their practice as a result and feel that the information given is highly applicable to their duties.

Conclusion

The initial training needs questionnaire provided valuable information to develop a new three-stranded training programme. Further developments are being considered.

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Attitudes and perspectives of pharmacists in non-patient-facing settings to the introduction of an integrated pharmacy education programme

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Introduction

In 2015, the education and training programme leading to a pharmacy qualification in Ireland changed to an integrated five-year pharmacy programme, within which three practice placements are dispersed. This study was carried out to ascertain the perspectives of pharmacists working in non-patient-facing roles (pharmaceutical industry, regulation and education) on the change to an integrated pharmacy education model. In particular, the aim was to understand the barriers and facilitators to placement facilitation in these practice settings, to aid in identifying placement recruitment strategies.

Methods

A questionnaire was distributed to pharmacists employed in the pharmaceutical industry, education and regulation. Quantitative responses were analysed using descriptive statistics, while qualitative questions were reviewed to identify emerging themes.

Results

Regardless of number of years of experience in the practice setting or prior supervision experience, the majority of respondents expressed a preference for offering paid placements of six months' duration. There was divided opinion regarding whether students should be given study leave, whether the student's supervisor must be a pharmacist and whether students should be encouraged to undertake specialised postgraduate training before pursuing a career in this practice area. The main barriers to the facilitation of pharmacy student placements were time, conflict between placement governance and internal policies, the placement structure, availability of suitable projects or supervisors and awareness of placement opportunities on the new integrated programme. Prior experience in the practice area, some elements of the governance structure, developing the talent pipeline and personal interests were all viewed as facilitators of practice placements.

Conclusion

It is clear that the move to an integrated model of pharmacy education has an impact on placement facilitation in non-patient-facing practice areas. Given the increasing roles for pharmacists in non-patient-facing practice settings, this study highlights the importance of consulting with all stakeholders prior to the implementation of a new model of education.

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Analysis of biologic testing of IBD patients in Antrim Area Hospital

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Introduction

Anti-TNF biologic agents are used for patients with severe ulcerative colitis and Crohn's disease according to NICE guidelines, initiated and monitored by the hospital consultant with funding secured for treatment. In May 2017 a blood test for adalimumab and infliximab drug levels and antibody development was introduced with pre-dose blood samples taken at the IBD clinic in selected patients. Thus, the To analyse the use of biologic testing in IBD patients in Antrim Area Hospital.

Objectives

- To determine the number of patients sampled and why.
- To evaluate the pharmaceutical action taken.
- To assess the potential cost impact on treatment.

Methods

Retrospective data was collected on all samples taken from 19/5/17 to 21/3/18. The IBD database was consulted to calculate the total number of patients on biologic agents and treatment switches in this time period.

Results

Samples were taken in 26 patients (13%) for poor response (46%), loss of response (15%), to confirm appropriateness (12%), flare-up, patient reporting symptoms, calprotectin increase (all 8%) and primary non-response (4%). Patients had subtherapeutic levels with infliximab (41%) and adalimumab (25%). Antibodies developed in 23% and 25% respectively. Therapy was modified in 46% with half receiving increased doses/dosing intervals and half changed to a different agent. Three patients were sampled twice and therapy changed after the second result. Sampling has provided estimated cost savings of £43,889-£52,709.

Discussion

Results allow confirmation of the appropriateness of therapy or provide reasons for lack of/loss of response to therapy. Along with clinical judgement this information can be used to identify patients who may need to change biologic therapy. The use of this testing has provided cost savings by identifying those patients who may otherwise have had therapy switched due to loss of response.

Conclusion

The introduction of drug and antibody level testing has been beneficial in the treatment of IBD. It would be beneficial to develop a sampling protocol and a virtual clinic to analyse sample results in a timely manner and secure funding to cover sampling costs.

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Evaluation of a clinical pharmacy service on an inpatient ward in an acute hospital

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Introduction

Intensive clinical pharmacy input from admission to discharge has been shown to improve patient outcomes. In Connolly Hospital, the clinical pharmacy service has historically been under-resourced.

Aims

To develop a ward-based clinical pharmacy service and to evaluate its impact using a number of clinical, safety and financial metrics.

Methods

A clinical pharmacist was assigned to provide pharmaceutical care to patients on a Medicine for the Elderly ward. Over an eight week period, the pharmacist prospectively recorded her interventions/activities. To assess impact on patient care, interventions were graded according to the Eadon criteria. The potential cost avoidance associated with interventions was estimated. Medication incident reporting was analysed to assess the impact on patient safety.

Results

- 87% of patients had at least one pharmacist intervention, across a spectrum of activities including medication reconciliation and clinical review.
- 90% of interventions requiring follow-up with the medical team were accepted and resulted in a change to patient's care.
- Eadon grading of interventions deemed 99% to be significant, with 81% improving the standard of patient care.
- Two different methods were used to estimate potential cost avoidance: one estimated annual savings of €154,103 - €344,926; the other estimated these at €174,373. Given current pharmacist salary costs, this equates to a cost-benefit ratio of 1:2.8 to 1:6.3. (This does not include a 27% reduction in drug spend observed during the study period. However, more longitudinal data are required to confirm and characterise this phenomenon.)
- A five-fold increase in medication incident reporting from the ward was observed, suggestive of an enhanced culture of patient safety.

Conclusion

This study assessed and quantified a wide spectrum of pharmacist contributions to medication management and safety. Costing of these contributions estimates the cost-benefit ratio of the clinical pharmacy service, providing compelling support for the extension of this service throughout the hospital.

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Pharmacy department contribution to final year medical assistantship training in Northern Health and Social Care Trust (NHSCT)

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Background

Final year medical students in Northern Ireland undertake a 3 month period of assistantship training in hospitals. In the NHSCT, medical students attend training provided by the pharmacy department consisting of three workshops and completion of a Direct Observation of Clinical Practice (DOCP) - Dummy Kardex, with pharmacists. Thirty-seven trainees attended in 2019. The aim was to review the usefulness of the pharmacy department training for final year medical assistantship students.

Method

Students were requested to complete online questionnaires pre-training and following each of 3 workshops. Written comments following the final workshop were requested.

Results

All students (n=37) completed the pre-training and follow-up questionnaires. Positive feedback was received - 100% stated the sessions were useful with respect to their clinical practice and 73% felt the workshops contained topics they had not received previous training on. Student comments were generally very positive and included;

- 'Good range of topics, well delivered in a timely manner'
- 'Would have been good to get similar teaching pre-examination in final year as good clarification of difficult subjects'
- 'Drug calculation training would have been useful before the PSA exam'

Discussion

Overall training provided by the pharmacy department was regarded as positive. Students feel more confident about reaching out to pharmacists for help, which will make them better junior doctors. They are more aware of useful resources and where to locate them. Some areas of further training at undergraduate level were identified which could potentially be delivered in conjunction with the schools of Pharmacy and Medicine.

Conclusion

The pharmacy aspects of the assistant programme delivered at the NHSCT was well received and was perceived as beneficial by the students.

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Exploring students' understanding of medicines optimisation on discharge

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Background

Evidence from the *Northern Ireland Medicines Optimisation (MO) Quality Framework*, May 2016, reports that medicines use remains suboptimal and that patients are failing to gain the expected benefits of treatment¹.

Aims

To determine QUB fourth year undergraduate MPharm student understanding of the concept of MO on discharge.

Method

All fourth year students were invited to complete a questionnaire pre and post fourth year placement. The Fisher Exact Test was used to analyse results.

Results

110 questionnaires were completed pre-placement, 79 completed post-placement. Students reported increased involvement or observation post 4th year placement, for example, in the medicines reconciliation process at discharge and the supply of medicines at discharge. Example of student responses included 'We had the opportunity to counsel a patient on their discharged medicines – telling her what they were for, how to take them and any side effects.'

Discussion

Comments from pharmacy students gave practical examples of medicines optimisation on discharge. The pharmacist role-modelled authentic tasks at discharge. The students are more aware of real-life issues in the workplace.

Conclusion

The students involved in this research are more aware of many aspects of medicines optimisation at discharge. A significant improvement ($P > 0.005$) was obtained in the number of students who completed a MO tool for a patient being discharged from hospital. These future pharmacists will be more aware of the discharge process when they qualify as pharmacists and should benefit patients, especially in terms of medicines supply and communication. Students will now undertake a medicines optimisation tool focusing on the discharge stage in both third and fourth year.

References

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Protocol for a systematic review of theoretically derived interventions aimed at improving appropriate polypharmacy in primary care

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Introduction Polypharmacy has been described as 'one of the greatest prescribing challenges'¹. A recent Cochrane Review² assessed the effectiveness of 32 interventions to improve the use of polypharmacy in older people, and concluded that the evidence base overall was very low. It stated that future interventions could benefit from adopting the United Kingdom Medical Research Council's framework for the development of complex interventions as included studies lacked detailed methodological development. To date, no review has explored the use of theory in the design of interventions aimed at improving appropriate polypharmacy in primary care. The aim of this review, therefore, is to establish the overall effectiveness of theoretically derived interventions on improving appropriate polypharmacy in primary care and to investigate the degree to which theory informed the intervention design.

Methods A systematic review of all randomised controlled trials, non-randomised controlled trials, controlled before-and-after studies and interrupted time series studies involving theoretically derived interventions aimed at improving appropriate polypharmacy in primary care will be undertaken. Electronic searches will be performed in CINAHL, the Cochrane Library, Embase, MEDLINE, PsycINFO, Pubmed, SCOPUS and Web of Science. Eligibility for inclusion will be assessed by two reviewers, discrepancies will be resolved by discussion with a third. Risk of bias will be assessed using the 'Risk of Bias' tool for randomised studies and 'suggested risk of bias criteria for EPOC reviews' for non-randomised studies. The Preferred Reporting Items for Systematic review and Meta-analysis statement will be followed.

Results This review is ongoing, analysis of results will be available for presentation at the conference. The primary outcomes for the review are to examine the extent of theory used in each study and to assess if the theoretically derived intervention helped to achieve appropriate polypharmacy.' The results of this review will provide evidence regarding the inclusion of theory in developing interventions for appropriate polypharmacy. Findings will be disseminated by scientific peer-reviewed publication and presentations at scientific events.

Conclusion This review aims to establish the overall effectiveness of theoretically derived interventions on improving appropriate polypharmacy in primary care. This review will help guide future research in intervention development in this area.

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Overview of the Irish Medication Safety Network

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Introduction

The Irish Medication Safety Network (IMSN) is a voluntary, independent group of hospital pharmacy based specialists with an interest in medication safety, including representatives with specialist interest in high risk medications. Our aim is to improve patient safety with regard to the use of medicines. The IMSN was established in 2007 and has over 50 members representing major hospitals in Republic of Ireland, in both the public and private sector.

Activity

The network meets bimonthly to promote the exchange of information on medication safety issues, and to facilitate national and global initiatives to help minimize patient risk. Between meetings, outputs are collated via working groups from different stakeholder hospitals, and including external participant stakeholders as relevant to the subject at hand. Alerts, briefing documents and guidelines are published on www.imsn.ie.

The IMSN acts as medication safety liaison with relevant State bodies e.g. HPRA, HSE, HIQA, NCCP and the Department of Health. The IMSN also forms part of HIQA's expert advisory group for the medication safety monitoring programme.

Annual Conference

The Network hosts an annual conference, generally opened by the Minister for Health, to highlight specific medication safety initiatives at both local and national level. *Conference themes will be highlighted in our poster presentation.*

WHO Patient Safety Challenge

The WHO Patient Safety Challenge – Medication without Harm is to reduce the level of severe avoidable harm related to medications by 50% over 5 years. The IMSN welcomes this global call for action, as we continue to promote the exchange of information on medication safety and facilitate national and global initiatives. For further detail on the work of the Irish Medication Safety Network, visit www.imsn.ie

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Gender-biased assessments: do negatively marked true-false MCQs favour males?

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Introduction

This study aimed to examine whether negatively marked true-false multiple-choice questions (MCQs), such as those used in the MPharm degree at Queen's University Belfast, were gender-biased. Some research in medical education has shown that male students are favoured in such assessments, being more likely to guess than a female student with the same level of confidence of the correct answer.¹ Differences in attitudes to risk between genders has been reported in assessments elsewhere.²

Method

Anonymised results (showing gender only) of 35 negatively marked MCQ exams across four levels of the MPharm, from May 2015 to May 2018, were analysed using Microsoft Excel®. In each spreadsheet, the total number of correct, incorrect and not attempted answers for each gender; the total number of males and females that sat the exam was summed and percentages calculated. Data was collated to establish patterns between levels and to examine overall gender performance and responses.

Results

Male student correct answers ranged from 58.04% (level 2) to 74.48% (level 4), while the percentage of female correct answers ranged from 58.64% (level 2) to 76.52% (level 4). The percentage of incorrect answers decreased as students progressed through the levels, with 13.65% and 13.74% in level one to 7.09% and 6.41% in level 4, respectively. The percentage of not attempted questions was highest in level 2 for both males and females, at 29.89% and 29.73% respectively. In contrast, the percentage of not attempted questions was lowest for both males and females in level 4 at 18.43% and 17.07% respectively. Overall, females achieved a higher mean mark in the MCQ component in 74.3% of the modules (26/35) and males in the remaining 25.7% of the modules (9/35). Males and females did not attempt 24.53% and 24.91% of questions across the 35 modules respectively (difference of 0.38%).

Conclusion

The findings of this study contradict previous research which has found a gender bias in the use of negatively marked MCQs in students. Moreover, females did not demonstrate higher levels of risk aversion than their male counterparts, as little variation was seen in the number of questions omitted between males and females. These results indicate that negative marking of true-false MCQs does not introduce a gender bias within the MPharm degree at Queen's University Belfast.

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Assessing values using situational judgement tests – the Belfast experience

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Introduction

“Values-based Recruitment” (VBR) has been widely adopted in the NHS in order to help recruit staff who have the values and attributes important in clinical practice, including integrity and compassion. ¹ Situational Judgement Tests (SJT) are specifically designed to measure attributes for a given role. ² In 2017, Health Education England used SJTs to recruit pre-registration pharmacists *via* the Oriel System for posts in England and Wales.

Method

All Queen's University Belfast (QUB) MPharm students were invited to complete an SJT. Students' ability to complete the SJT were evaluated, and a focus group was conducted to explore their understanding of SJTs and the key professional attributes evaluated.

Key findings

All students performed well with a mean performance of 75% [across all levels]. A slight increase in the mean score of final year students was observed. No significant differences were found when analysing variables such as gender or English as a first language. The focus group themes considered the fairness of the test, student professionalisation as well as the integration of non-academic competencies throughout the MPharm curriculum. Students believed the best method to improve non-academic competencies was increased time with role models on placement.

Conclusion

The SJT was found to be a fair selection test. The ability of SJTs to identify students that did not perform as well as their peers fits the purpose of a selection test.

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Incorporation of the Warfarin Referral into the Electronic Discharge Letter

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Introduction

Warfarin is an oral anticoagulant that requires close monitoring and an individual dosing regimen for each patient. In the SHSCT, in-patients on warfarin have it prescribed on an additional warfarin prescription. At the point of discharge this form also acts as a referral form, for continued INR monitoring after the patient is discharged from hospital. The warfarin form is sent to the patient's GP practice, with the discharge letter and a copy is also sent to the clinic monitoring the patient's INR.

Aim

The aim of this project was to incorporate the warfarin form into the electronic discharge letter. The anticoagulant pharmacist worked with the IT department to develop a system on the existing e-discharge programme so that when a patient is prescribed warfarin on the e-discharge letter, an anticoagulant therapy chart is generated. The perceived main benefit of this project is that the warfarin information is available on the Northern Ireland Electronic Care Record (NIECR), which is accessible to health care professionals in primary and secondary care.

Method

Discharge information from 20 patients on warfarin, who were managed by the hospital based anticoagulant clinic, was analysed for accuracy. This was done by comparing the discharge letter to the warfarin prescription and referral form and to the data held by the anticoagulant clinic.

Results

The results showed that of the 20 patient records reviewed, the data was transferred to the e-discharge letter appropriately in the vast majority of cases.

Conclusion

The data obtained from this project shows that the incorporation of the warfarin prescription and referral chart into the electronic discharge letter has been a beneficial change, with the data recorded on the e-discharge letter having a higher standard of completion than the paper version. In addition, as this data is available to read on NIECR as soon as the patient is discharged, the transfer of information between secondary and primary care is faster and more accessible to all health care professionals. Anecdotal feedback from hospital users backs up these results, with the additional benefit of having anticoagulant information available if patients are readmitted to hospital again. Doctors found this particularly useful if the patient was admitted out-of-hours and was unable to communicate this information.

In the future, it is planned to develop a similar form for DOACs, which will provide information on indication and duration of treatment as well review recommendations.

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Integration in the MPharm degree: Preparing students to integrate their medicinal chemistry knowledge with pharmacy practice

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Background

Pharmacists are required to undertake work relating to the science of medicines¹ and hence an appreciation of the importance of science in practice must be developed during the MPharm degree. To facilitate this, the General Pharmaceutical Council (GPhC) require MPharm curricula to be integrated². Within the degree, students find integration of chemistry aspects challenging, and struggle to perceive their relevance. As this area is vital to the understanding of drug function, medicinal chemistry teaching in Level 2 and 3 of the MPharm degree at QUB has been redesigned to strengthen links between lectures, laboratory practicals, and patients in practice. This study aimed to evaluate the impact of course redesign on student views.

Methods

Following ethical approval, and piloting with 10 PhD students, a questionnaire was distributed to Level 3 and Level 4 MPharm students. This consisted of 24 Likert scale questions, supplemented with four free-text questions. A focus group (n=7) was conducted with current Level 3 students. Questionnaire data was analysed and compared to data from 2017 (prior to course redesign) using descriptive statistics, Mann-Whitney U and Kruskal-Wallis tests, with significance set at $p < 0.05$.

Results

Questionnaire response rates of 87.5% (91/104) and 74.5% (73/98) were obtained for Level 3 and 4 respectively. Significantly higher numbers of those who undertook the new course reported being able to integrate chemistry components with practice-based components of their course (54% vs 32%), and being able to see the relevance of pharmaceutical analysis (70% vs 47%) and drug molecular structure (75% vs 46%) to patient care. Focus group participants highlighted the application of theory in practicals, and analysing their own synthesised drug, as helpful aids to understanding and perceptions of relevance. The majority of students in Level 3 (89%) and Level 4 (96%) agree that the role of the pharmacist requires integration of information from science and practice.

Conclusion

Improvements in perceptions of relevance and self-reported ability to integrate chemistry components with practice-based components of the course demonstrate the positive impact of course redesign. The increase in the perceived benefit of integration in Level 4, compared to Level 3, correlates with the spiral curriculum programme design within the MPharm at Queen's University Belfast.

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An exploration into a pharmacist-led medicines reconciliation service in an acute hospital setting

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Introduction: Accurate medication records are essential in preventing errors, avoiding harm, aiding diagnosis and treatment planning. Prescribing errors are more prevalent on hospital admission, as acutely unwell patients may be unable to recall their medicines.^{1,2} Medicines Reconciliation (MR), “the formal process in which healthcare professionals partner with patients to ensure accurate and complete medication information transfer at interfaces of care” ensures accurate medication record generation.^{3,4} MR is undertaken to varying degrees in many institutions, by a variety of healthcare professionals each with their own focus, priorities and methods.^{5,6,7,8} MR is a WHO patient safety priority outlined in the High 5s Project.³

Aims: To determine the views and opinions of doctors towards a pharmacist-led MR service in an acute hospital setting and To ascertain what doctors identify as barriers and facilitators to MR.

Methods: A questionnaire used mixed methodology through open and closed question styles to accurately gather prescriber views and opinions on the pharmacist-led MR Service.

Results

- The positive impact on patient care and safety demonstrated by MR was acknowledged by 98% (n=50) of respondents.
- Forty-nine respondents, 94%, agreed MR saved them time while 92% (n=48) recognised MR decreased their workload.
- Participants were satisfied with the MMUH MR Service, 90% (n=46) and 94% (n=49) agreed MR is accurate.
- Participants called for dedication of pharmacy resources to MR, 88% (n=46), and service expansion to include all patients on admission, care transition and discharge was advocated by participants, 79% (n=41), 86% (n=44) and 79% (n=41) respectively.
- The most important MR facilitator was verbal communication of MR discrepancies.
- The most important barrier was current service limitations.
- Thematic analysis of 138 classifiable responses identified four themes, patient safety (n=33), workload implications (n=9), MR usefulness (n=52), service development (n=56).

Conclusion: Prescribers view the pharmacist-led MR Service as a positive, useful initiative saving prescribers time and increasing patient care and safety hospital wide.

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An observational review to evaluate the appropriateness of stress ulcer prophylaxis continuation in cardiothoracic patients post intensive care unit discharge

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Introduction: Patients, admitted to the Intensive Care Unit (ICU), are at high risk of developing stress ulcers within 24 hours of admission due to the severe physiological stress their bodies are subjected to.¹ Stress ulcer prophylaxis (SUP) is recommended by international guidelines as a standard of care in critically ill patients with appropriate risk factors for stress ulcers to prevent gastrointestinal bleeding.^{2,3} They state that once risk factors for stress ulcers have resolved SUP can be stopped.² Evidence exists that many risks are associated with the use of acid suppressants such as increased risks of *clostridium difficile* and pneumonia.^{4,5}

Aims: To evaluate the appropriateness of current practice in the Mater Misericordiae University Hospital (MMUH) for the continuation of SUP in cardiothoracic patients post ICU discharge.

Methods: This study is a prospective observational review that involved the development of a data collection tool by the researcher following a discussion with the medical director of critical care in the MMUH to include indications for SUP administration in accordance with the American Society of Health System Pharmacists (ASHP) SUP guidelines and the Surviving Sepsis SUP guidelines.^{2,3} The data collection tool was piloted by the researcher and was then used to evaluate the appropriateness of SUP administration in cardiothoracic patients post ICU discharge.

Results: SUP was inappropriately continued in 88.8% of patients discharged from ICU.

Conclusion: Many cardiothoracic patients post ICU discharge were inappropriately continued on SUP. This highlights the need for initiatives to be introduced to reduce the unjustified continuation of SUP post ICU discharge such as adaption of evidence-based SUP guidelines at ICU discharge and introduction of educational interventions to educate staff on risk factors for stress ulcers and the importance of reviewing patients for same.

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Evaluating how pharmacist independent prescribers impact the discharge service

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Introduction

Fewer Foundation Year 1 Doctors were funded in 2017/2018 at the Ulster Hospital. Pharmacist Independent Prescribers (PIP) were employed to write the Discharge medication and advice letter (DMA) (this included the medical content of the discharge letter and medication list). There was a need to assess how this would impact the discharge service with minimal research undertaken in this area to date.

Objectives

Evaluating the time taken to complete the DMA (from the time patient highlighted for discharge through to completion of the prescription), evaluating the incidence of interventions on the DMA and classifying the errors according to the Eadon scale⁽¹⁾ and exploring staff opinions on the discharge process.

Method

A mixed methods pre and post case study approach was employed. Timings for all stages of the discharge process were recorded. Qualitative data collection took place in the form of a standardised face to face interview. Interviews were audio recorded. This study required and received ethics approval.

Results

A reduction in the overall time it took to complete the discharge once the PIP role was implemented was achieved. Interview data was thematically analysed. Eight main themes emerged: Description of the discharge process, Patient specific issues, Staffing issue, Systems and paperwork, Communication, Pharmacy, Social work and transport and Ideas for development of the discharge process.

Discussion and conclusion

Implementation of the PIP writing the DMA was a success with medical time freed up to undertake other clinical tasks, beneficial safety outcomes for the patient with less errors on the DMA and improved patient flow. Staff opinions on the discharge process improved after the implementation of the PIP writing the DMA. The role of the Pharmacist as a key member of the multidisciplinary team was confirmed.

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Dysphagia and medication use in intellectual disability services: an intervention

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Introduction

This project facilitated an improvement in Service User (SU) care through Multi-disciplinary Team (MDT) collaboration. The SUs in SJIDS are at a higher risk of swallowing difficulties than the general population for a number of reasons¹. The pharmacist and speech and language therapist developed an SOP: *Identification of Service Users (SU's) swallowing needs and medication needs in relation to swallowing difficulties (Dysphagia)*, which was designed to provide better health outcomes for all SU's in SJIDS.

Results

- 100% (76) of SJIDS SU's reviewed.
- Recommendations made for 62% of SU's (47) = Dosing / Frequency / Nutilis Prescribing / Drug Interactions / Endorsing the Medicine Prescription and Administration Record (MPAR) / Suitability for altering the formulation of a medication - i.e. crushing.
- 16% of SU's (12) were identified as having dysphagia.
- 11% of SU's (8) were inappropriately having their medication crushed.

Discussion

The development of this SOP demonstrated the role of health care professionals working in partnership to achieve better health outcomes for SU's. A key design feature of the SOP was, a "How I like to take my medication" information fact sheet. A completed factsheet was attached to every SU's MPAR giving clear information on SU's preference for administration of medication. This ensures consistent care for all SU's and facilitates safe administration of medication. Interprofessional education and training was provided by the pharmacist to nursing and medical staff on both safe prescribing and administration of medication for SU with swallowing difficulties. Follow-up on all recommendations made will be undertaken at MDT.

Conclusion

This new service was rolled out in SJIDS and has embedded the pharmacy department within the MDT. Collaboration with SLT as part of the MDT was a key component of the success of this project. Overall there has been a safety improvement with respect to medication use in SJIDS through working interprofessionally.

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Training trainers – developing a modularised training programme for pharmacists facilitating student placements

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Introduction

Following the review of pharmacy education in Ireland by the Pharmaceutical Society of Ireland (PSI)¹ and the resulting SI No. 377 of 2014², a five-year integrated programme of pharmacy education was introduced. Pharmacists facilitating placements for students undertaking this course would be providing experiential learning placements and were required to undertake specific training in order to be accredited to do so.

Approach

APPEL (Affiliation for Pharmacy Practice Experiential Learning) developed a modularised training programme in consideration of the relevant legislation and standards^{2,3,4}, existing national and international models of training for pharmacists and other health care professions and feedback from APPEL's engagement with the pharmacy profession.

Outcome

The APPEL Trainer Training Programme was launched in April 2018. Training can be completed at live training events or online. Hard and soft copies of Trainer Handbooks are provided to trainers for ongoing support upon completion of their training. This choice of modalities affords flexibility to trainers while maintaining consistent standards through the assessment methodologies employed.

Conclusion

315 pharmacists complete APPEL Trainer Training in 2018. Feedback on the training has been positive with 100% of participants agreeing that having completed training they knew how to prepare for a 4th year placement.

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Developing a set of recommendations on the use of aspirin in the primary prevention of cardiovascular disease for prescribers in Ireland

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Background and Aims

Although the net benefit of aspirin in the secondary prevention of cardiovascular disease (CVD) is well established, the same is still a matter of debate in the primary prevention context. The aim of this project was to develop recommendations regarding the use of low-dose aspirin in the primary prevention of CVD.

Method

A literature search was carried out using Embase and PubMed using MeSH terms. Primary prevention trials, systematic reviews and meta-analyses were evaluated and summarised. National and international guidelines were also reviewed. The utilisation and expenditure data for aspirin was extracted from the national pharmacy claims database for the General Medical Services (GMS), Drug Payment (DP) and Long-term illness (LTI) schemes for 2017. This data was evaluated using Microsoft Excel® and JMP8®.

Results

In 2017 over 2.95 million prescriptions were issued for aspirin 75mg accounting for a total expenditure of €15.6 million. Fourteen primary prevention trials from 1988-2018, which consistently appeared in systematic reviews and meta-analyses, were included. Only five of the fourteen trials included were published in the past five years and significant heterogeneity was noted between studies. The dose of aspirin, the study population, the outcomes measured and the definition of “primary prevention” differed between studies. In May 2019 the Medicines Management Programme (MMP) published the final guidance document on the use of aspirin in the primary prevention of CVD. Based on the currently available evidence the MMP does not recommend the initiation of low-dose aspirin in adults for primary prevention of CVD.

Discussion and Conclusion

The lack of consistency across trials and studies made applying trial outcomes to a modern Irish cohort a challenge. We included contemporary studies in which doses of aspirin were less than 100 mg while stratifying risk in terms of patient factors such as diabetes and older age. The distilling of available evidence can be challenging, however, the continued development of guidance is critical to aid prescribers and improve national prescribing of medicines in Ireland.

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Why are we waiting?

Lead times for parenteral systemic anti-cancer therapy (P-SACT)

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Introduction

Waiting time on the day of P-SACT has a high impact on the patient's overall experience of care. This is a potential measure of Oncology-Haematology Day Unit (OHU) process efficiency¹. Performance and reliability of the Aseptic Compounding Unit (ACU) can have knock on effects on the OHU functionality¹.

Aims and Objectives

1. To re-evaluate P-SACT lead times and compare them to 2017 baseline measurements
2. To identify factors which result in extended lead times >60 minutes

Methods

1. Data collection for five consecutive days in December 2018
2. Measure time from chemotherapy order, to departure of chemotherapy dose from ACU
3. Inclusion criteria: all haematology/oncology outpatients for P-SACT
4. Exclusion criteria: inpatients & non-haematology/oncology patients for SACT
5. Data analysed using Microsoft Excel 2010

Results

The mean lead times for all P-SACT reduced from 28 to 14 minutes in December 2018 compared to baseline. This includes items made in advance and those made to order on the day of treatment. Lead times (for items made to order) were 46 versus 33 minutes respectively. The range of lead times for all items in 2018 was 0 to 156 minutes with 60% delivered at zero minutes. High cost drugs and the absence of pre-chemotherapy bloods were the reasons why P-SACT was not made in advance. Factors in the re-audit for P-SACT (n =30) having lead times > 60 minutes were:

1. Chemotherapy ordered at break / lunch time (43%)
2. Delays due to ACU processes (23%)
3. Chemotherapy not prescribed but ordered by nursing staff (14%)
4. Unknown (20%)

Conclusion

The ACU have made further improvements to their service and patients have shorter waiting times for their P-SACT from the time of ordering.

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Pharmacist education on oral anticoagulant medication-a patient satisfaction survey

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Introduction

Due to their high risk nature, the Mater Misericordiae University Hospital (MMUH) Pharmacy Department provide a medicines education service to all patients newly prescribed an oral anticoagulant (warfarin or a Direct-Acting Oral Anticoagulant (DOAC)¹. As well as verbal education, a warfarin or DOAC booklet is provided. A MMUH DOAC booklet was introduced in August 2017.

Aims

To assess patient satisfaction with oral anticoagulant education provided by pharmacists and to obtain feedback on the new DOAC booklet.

Methods

The audit was conducted over a six week period between February and April 2018. All patients who were provided pharmacist education on an oral anticoagulant during this timeframe were given a questionnaire for completion after education took place. The questionnaire contained questions on whether the patient found the information useful, the quantity of information discussed and which format of communication was most beneficial.

Results

30 patients were involved in this study. 40% (n=11) of patients were prescribed warfarin, with the remaining 56% (n=17) prescribed a DOAC (apixaban n=12, rivaroxaban n=4, dabigatran n=1). All patients reported that the verbal and written information was useful. When asked which format of communication was most beneficial, the majority (n=16) of respondents answered both verbal and written communication. The majority (n=29) of patients reported that they understood the information discussed. All patients (n=16) who had read the DOAC booklet reported that it was helpful.

Conclusion

The results of this audit demonstrate patient satisfaction with the pharmacist education provided to patients commenced on oral anticoagulants at the MMUH. The results also suggest that patients support the use of written materials in addition to verbal education. Patients reported that they find the DOAC booklet helpful.

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Pregabalin and gabapentin drug utilisation review at the Mater Misericordiae University Hospital

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Introduction

Both pregabalin and gabapentin are included in the top 100 products reimbursed by the Primary Care Reimbursement Service¹. The HSE Medicines Management Programme have highlighted the need for vigilance when prescribing and dispensing pregabalin/gabapentin as both drugs have a risk of addiction and a potential for misuse². Pregabalin and gabapentin are frequently supplied for Mater Misericordiae University Hospital (MMUH) in-patients.

Aims

To assess the current practice of prescribing gabapentin/pregabalin at the MMUH and to determine if intervention is required to ensure their appropriate use.

Methods

A one day hospital-wide audit of pregabalin and gabapentin was conducted. The audit took place over 5 days (August 2018). Clinical Pharmacists gathered information on the dose prescribed, indication and documented history of epilepsy and if treatment was started prior to admission.

Results

Approximately 588 in-patient drug charts were reviewed. 53 patients were prescribed pregabalin, one of whom had a history of epilepsy. 83% of pregabalin prescriptions were initiated before hospital admission. Pregabalin 75mg twice daily (n=8) was the most commonly prescribed dose. 45 patients were prescribed gabapentin during the audit. Five patients had a history of epilepsy. 47% of these patients were prescribed gabapentin before hospital admission. Gabapentin 300mg three times daily (n=12) was the most commonly prescribed dose.

Conclusion

This study found a significant level of in-patient pregabalin/gabapentin use. The high rate of gabapentin initiation at the MMUH is in accordance with the hospital post-operative pain guidelines. In contrast, most patients commenced Pregabalin prior to hospital admission. This audit provides baseline data for which future audits can be compared against. Results were disseminated to the Drug and Therapeutics Committee and will be discussed with the pain management team to explore potential interventions for appropriate use. Future studies to address if gabapentin prescriptions are appropriately continued on discharge from the MMUH are required.

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Cost savings associated with switching from enteric to film coated prednisolone

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Introduction

Prednisolone is a corticosteroid, commonly prescribed in the hospital setting for a variety of indications, often as a short term treatment. Enteric coated (EC) prednisolone was the preparation routinely stocked and utilised by hospital in-patients, even when EC was not specifically prescribed. Film coated (FC) prednisolone was supplied for in-patients with swallowing difficulties. There is no conclusive evidence that the use of EC prednisolone reduces the risk of peptic ulceration.¹ Furthermore patients on high dose or long term corticosteroids are often prescribed a separate agent for gastro-protection. EC prednisolone is five times more expensive than FC prednisolone.

Methods

In February 2019, EC prednisolone was replaced by FC prednisolone on all in-patient ward stock lists. Only patients admitted on EC prednisolone were maintained on the EC preparation, including the heart /lung transplantation patients who are routinely managed with EC prednisolone.

Results

In a two month period prior to the changeover (November and December 2018) 24,200 units of EC prednisolone were purchased (Cost=€ 2,388) and 1,600 units of FC prednisolone were purchased (Cost = € 28), resulting in a total spend of € 2,416 in a two month period. In the two month period directly after the changeover 1,800 units of EC prednisolone (Cost = € 174) and 21,400 units of FC prednisolone were purchased (Cost = € 377), resulting in a total spend of € 551 in a two month period. This constitutes savings of €1,865 in a two month period, a 77.2% reduction in total spend on prednisolone. Although we note slightly more prednisolone (n =2600 units) purchased in the two month period before the changeover versus after, the data is still comparable.

Conclusion

The growth in medicines costs is a global challenge. Spending on hospital medicines is increasing at a greater pace than any other type of healthcare expenditure, thus organisational governance of medicines expenditure is crucial. Our hospital has demonstrated a simple change from EC prednisolone to FC prednisolone was possible, with no reported adverse effects. There will be continued significant cost savings associated with the switch.

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Audit of oral anticoagulant prescribing in the Mater Misericordiae University Hospital; what has changed in 4 years?

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Introduction

The MMUH formulary recommendations for OACs are in line with the Health Service Executive (HSE) Medicines Management Programme (1,2). Warfarin is the OAC of choice. Apixaban is the preferred Direct Oral Anticoagulant (DOAC) if warfarin is unsuitable. Edoxaban, dabigatran and rivaroxaban are third-line options (1,2). In 2014, warfarin was prescribed in 81% of cases in the MMUH. National data indicates DOACs are now prescribed more often than warfarin (2).

Aims

To identify current MMUH OAC prescribing practice and compare results with 2014 data.

Methods

A point prevalence audit was completed in November 2018 by clinical pharmacists, across thirty wards on all patients on OACs. The OAC, indication, dose, prescribing team speciality and if treatment was commenced on this MMUH admission were recorded. Results were collated, analysed and compared with an identical 2014 audit.

Results

More MMUH patients were prescribed OACs in 2018 (n=87) than 2014 (n=53). Apixaban was the most commonly prescribed OAC (48%), followed by rivaroxaban (20%), warfarin (16%), dabigatran (14%) and edoxaban (2%). In 2014, warfarin was the most commonly prescribed OAC (81%), followed by rivaroxaban (15%), apixaban (2%) and dabigatran (2%). The Medicines for the Elderly speciality had the most patients on OACs in both 2018 (n=29) and 2014 (n=14). Atrial fibrillation remains the most common indication for oral anticoagulation. The majority of patients prescribed OACs in both 2014 and 2018 were 60 years or over. In 2014, all patients under 60 requiring oral anticoagulation were on warfarin. In 2018, all these patients were on DOACs. The number of patients starting OACs during MMUH admission was approximately 10% higher in 2018 than 2014.

Conclusion

Apixaban is the most commonly prescribed OAC in the MMUH. Use of warfarin has decreased from 81% in 2014 to 16% in 2018 and is now surpassed by DOAC prescribing.

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HSE Medicines Management Programme: A review of individual reimbursement applications

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Introduction

Section 23 of the Health (Pricing and Supply of Medical Goods) Act 2013 provides for the supply of items that are not on the reimbursement list maintained by the HSE Primary Care Reimbursement Service (PCRS) provided that the patient requires the item for clinical reasons, and there is no listed item which is a suitable alternative. The Medicines Management Programme (MMP) provides support to the PCRS by undertaking reviews of individual reimbursement applications and issuing a recommendation as to whether reimbursement should be supported.

Method

A retrospective audit was undertaken of all applications received by the MMP between January and April 2019 inclusive.

Results

The MMP received 31 individual reimbursement applications from PCRS between January and April 2019, involving 39 items. Reimbursement support was sought under the discretionary hardship arrangements for approximately half of the items (49%), with the Long Term Illness Scheme accounting for one-third of items. Melatonin was the item for which the most applications for review were received (18%), followed by liraglutide (10%) and probiotics (8%).

The majority of items (56%) were exempt medicinal products. In relation to the medicines with a marketing authorisation, two applications related to the licensed indication whilst 15 related to an off-label usage of the medicine. Of the 39 items, only three (8%) had undergone a health technology assessment conducted by the National Centre for Pharmacoeconomics for the indication to which the application relates.

Following completion of review, the MMP recommended reimbursement of 12 items (31%), and did not recommend the reimbursement of 21 items (54%). The review of six items is ongoing, with further information requested from the prescriber. The one-year budget impact of items for which reimbursement was recommended was €15,044, with a corresponding figure of €129,557 for items for which reimbursement was not recommended.

Conclusion

The MMP is providing ongoing support to the PCRS by reviewing individual applications and providing recommendations in relation to reimbursement support.

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Allergy status recording on haematology outpatient SACT charts

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Introduction

NHSCT policy 'Allergy Status Documentation'¹ states that medication should not be prescribed, dispensed or administered if the allergy status is not documented. Haematology systemic anti-cancer therapy (SACT) outpatient charts have an allergy recording box which should be completed for every patient by the prescriber at their first cycle of chemotherapy, and allergy status rechecked at each subsequent cycle.

Aim

All haematology outpatient SACT charts should have an allergy status recorded, signed and dated by the prescriber.

Method

Current haematology outpatient SACT charts (n=148) were assessed for allergy status completion i.e. allergen & reaction or NKDA, signed and dated on 8 August 2019

Results

When reviewed, number of allergy boxes complete = 64 (43%), allergy boxes partially complete = 16 (11%) and allergy boxes left blank = 68 (46%).

Discussion

The standard of 100% completion was not met. Patients on SACT are regularly prescribed drugs such as antibiotics, and a completed and regularly reviewed allergy status is important for safe prescribing. An allergy box was considered partially complete if it was undated or unsigned. Dates are critical so the most up to date allergy status can be determined. A change to an allergy status is a point where a chart could be rewritten; ensuring the most up to date allergy status is available and avoiding misinterpretation. This could be carried out by a pharmacist and checked by the prescriber. Trust policy states that in the case of reported allergies/sensitivities where the only source is the patient or carer, the pharmacist should discuss and confirm with a doctor before adding to the allergy box. As this policy is due for review, this statement could perhaps be revised to allow pharmacists to add an allergy to a chart at their own professional discretion, for example when a doctor is unavailable.

References

¹ Northern Health and Social Care Trust (2013). *Allergy status documentation policy NHSCT 13/738*.

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An audit of night sedation prescribing in the Mater Misericordiae University Hospital (MMUH); what has changed in 10 years?

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Introduction

When used appropriately, benzodiazepines and z-drugs (BZRA) can be effective for the short-term management of acute severe anxiety or insomnia¹. The MMUH formulary night sedation choice was agreed for use in consultation with Department of Adult Psychiatry and Department of Medicines for The Elderly². An audit of night sedation use was carried out in 2008 to assess the compliance with the MMUH formulary. A repeat audit was carried in May 2018.

Aims: To assess compliance of night sedation prescribing with the Hospital formulary and to compare results with 2008 audit.

Methods

- The Clinical Pharmacy Service conducted a one day “snap shot” audit.
- All in patient drug charts were reviewed
- Data collected included the drug name, dose and frequency, whether the patient was admitted on a non-formulary night sedative and if a stop date was indicated.
- 2018 results were analysed and compared with 2008 results.

Results

599 patient’s drug charts were reviewed by the Clinical Pharmacy Service. 97 (16%) patients were prescribed night sedation. 39 (40%) of the prescriptions were prescribed in the regular section. No prescription for night sedation had a stop date. 46 (47%) of the patients were prescribed a MMUH formulary agent, temazepam or zolpidem; 44 (96%) of these were prescribed zolpidem. 44 (45%) of patients were prescribed zopiclone, of which, 11 (25%) of these were prescribed after admission to the MMUH.

Discussion

In 2018, 16% of patients were prescribed night sedation versus 40% of patients in 2008. This is a positive finding. However, in 2018, 47% of patients were prescribed a formulary choice versus 84% in 2008. These results highlight the need for regular review of the hospital formulary agents in conjunction with the relevant consultants.

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The impact of a foundation programme in developing the competence of community pharmacy practitioners

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Background

Launched in 2016, the Community Foundation Programme (CFP) is a practice-based programme based on the 26 competencies of the RPS Foundation Pharmacy Framework. Over a two year period, early-career pharmacists produce a portfolio of evidence to demonstrate their development against the framework competencies. Workshop attendance and the completion of practice activities throughout the programme, provide a scaffolded, structured approach to the development of competence within the workplace.

Methods

All pharmacists within Cohort 1 of the CFP (n=7) completed an exit survey. The survey comprised of 21 questions, the majority of which required a response according to a Likert-type Scale (for example, 1=not at all, 10=completely). The questionnaire also allowed for free text responses. Anonymously completed questionnaires were returned to NICPLD via self-addressed envelopes within one month of pharmacists completing the CFP.

Results

Community foundation pharmacists rated their baseline competence (prior to starting the programme) as 3, 4, 7 or 8 (1=not at all competent, 10=very competent). Post-completion of the programme, the competence ratings increased to 9 or 10 using the same Likert-type scale. Respondents reported that practice activities and workshops alike had positively contributed to their competence development. Improved competence in consulting with patients, communicating with other healthcare professionals and in their clinical knowledge were all reported. An improvement in their skills as reflective practitioners was also seen with pre-programme competence rated as ≤ 6 (1=not at all competent, 10=very competent) compared to 9 or 10 post completion of the programme. All pharmacists indicated they would like to continue to develop their competence further, for example through Advanced Practice programmes or obtaining an Independent Prescribing qualification.

Conclusion

The results of this exit survey demonstrate the effectiveness of the CFP in developing the competence of early-career pharmacists. The impact of improved competence on practice is seen through increased confidence in carrying out a range of professional activities and the desire to continue their development.

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Evaluating the impact of patient specific dispensing on a surgical ward, with a focus on patient safety

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Introduction

As part of a quality improvement and patient safety initiative the CNM and Senior Pharmacy Technician trialled a new medicines supply method for a cohort of patients on a surgical ward based on supplying medicines to patients on a "named patient" basis for 7 weeks. The duration of the drug rounds for the usual and "named patient" service was measured and a stakeholder survey was completed at the end of the pilot period. The success of the pilot period facilitated cost savings which funded the 2 x Patient Specific Trolleys. These allow for each patient to have an individualized medication tray in the trolley. Temporary stock medicines were supplied on a 'named patient' basis and a comparison study was carried out to evaluate the benefits of the new service on efficiency, time and patient safety.

Aim/Objective

- Improved efficiency in medicines use via
 - Shortening drug rounds, which released nursing time for more patients care
 - Improved ordering of medicines
 - Fewer missing medicines and potential for omitted doses.
 - Fewer medicines returns to pharmacy for disposal.
- Improving patient safety and HIQA compliance.

Methodology

A time in motion study was carried out to compare the duration of the drug round before and after the introduction of the new service. An audit of omissions marked 5 (drug not available on the ward) and a comparison of the quantity of items requested from the pharmacy was completed. A stakeholder survey to gather nurse's opinion of the new service and education sessions were held to inform the nursing staff on the changes being implemented.

Results

- 31% reduction in length of time of drug round.
- 41% reduction in quantity of items requested from pharmacy.
- 48% reduction in omitted doses to patients.
- Reduction in returned medicines to pharmacy.

Conclusion

Overall, the results from the comparison study conclude that the introduction of the patient specific trolleys and named patient method of supplying to the ward has reduced the duration of the drug round thus freeing up time for nurses to engage in other patient activities. It also highlighted a reduction in omitted doses of medication to patients which is a positive outcome as the impact of a drug omission varies from insignificant to severe harm, depending on the medications and the patient's medical conditions. Suboptimal treatment may also lead to an increased length of stay.¹

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Sound alike look alike drugs (SALADs) in the hospital setting: an Irish Medication Safety Network initiative

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Background

Broadly referred to as Sound Alike Look Alike Drugs (SALADs), drugs with similar names or product packaging can cause confusion resulting in potentially harmful medication errors.^{1,2,3} Fatal outcomes (though rare) have also been reported.⁴ The Irish Medication Safety Network (IMSN) undertook a comprehensive review and update of their previously published guidance on this area.⁵

Briefing document and SALAD bar

A briefing document was developed based on a review of the literature, and seeking input from the wider network. Factors contributing to SALAD errors are outlined, including: the quantity and complexity of drug names, handwriting, electronic systems, packaging (lookalike) and product shortages. Strategies are recommended for risk reduction at hospital level. Actions are given to reduce the risk of error in each stage of the medication use process (*i.e.* communication, prescribing, dispensing, storage, and administration).

A key element was the development of a list of reported Sound Alike Look Alike Drugs which have been confused or have potential for confusion. This comprehensive "SALAD Bar" has been derived from multiple sources, including reports from Irish hospitals, published alerts, internal hospital alerts, and lists published by other agencies.

A communication strategy aimed to ensure maximum impact of the briefing document and the SALAD bar.

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Prediction tools, models and risk scores to identify elderly hospital inpatients most likely to experience drug related problems and/or benefit from hospital pharmacist intervention: a systematic review of the literature.

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Introduction

Drug-related problems (DRPs) can cause harm, hospital admissions, increased healthcare costs and even death¹. Older people are particularly vulnerable to DRPs¹.

Aim

The aim of this systematic review (SR) was to identify and critically appraise tools, models and scores used to predict which elderly (medical) inpatients are most likely to experience DRPs and/or benefit from Hospital Pharmacist intervention/review.

Methods

A systematic search of the literature was undertaken using 8 electronic healthcare databases. The CHARMS Checklist was used to critically appraise included studies.

Results

Nineteen studies met the inclusion criteria and were included in the SR. The tools/models/scores varied in complexity and were based on between 3 to 38 risk factors. Due to methodological and outcome differences, it was not possible to conduct a meta-analysis of the studies. None of the models satisfied all 4 key stages in creating a quality risk prediction model². Only 4 studies provided external validation of their model. Statistical analysis was reported in 17 studies (89%) and most (15,79%) reported assessment of model performance although methods varied.

Discussion

There is interest in developing tools to identify patients at high risk of DRPs and to prioritise for Hospital Pharmacist review. Further research is warranted to determine the usefulness of such tools in routine clinical practice and to directly compare tools.

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Using LEAN methodology to communicate the value and contribution of the pharmacist in complex care pathways: an interprofesional project

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Background

LEAN thinking is a systematic approach to identifying the value in a given process and eliminating waste through continuous improvement. It is a dynamic, knowledge-driven and patient-focused approach. Our aim was to apply LEAN tools to describe the pharmaceutical care pathway for a patient at Saint John of God Hospital. This is of strategic importance because we need to be able to communicate the way in which evidence-based clinical care is provided with patients, funders and managers. There is currently no unified description of the pharmaceutical care provided in the Hospital or what a patient may expect from their pharmacist during their in-patient stay. By identifying and describing our value stream we aimed to prioritise important quality improvement initiatives.

Methodology

LEAN tools and strategies were selected and a detailed project charter was developed. The LEAN tools used included the SIPOC, Voice of the Customer/Critical to Quality Matrix, 5 Whys, going to the 'Gemba', Value Stream Mapping, Service Family Matrix, Visual Management, Skills Versatility Survey and a Value Creation Framework.

Results

We suggest a new approach to describing the pharmaceutical care pathway that recognises the individuality of the recovery journey. We identified a quality improvement initiative focused on communicating value. We defined and standardised the medicines optimisation service provided to patients who are admitted under the psychiatry of later life team or the psychiatric intensive care unit. This initiative involved the development of a checklist to prompt and measure the medicines optimisation interventions for these patient groups. The checklist defines medicines optimisation interventions that are applied to every patient as a minimum standard and allows adaptation for individual patient care needs as appropriate.

Discussion/Conclusion

Most LEAN projects focus on eliminating waste in an easily defined process. By focusing on value we have tested the utility of this methodology in describing and improving evidence-based pharmaceutical care in a process that is difficult to define. This quality improvement initiative allows the pharmacy team to better communicate what input a patient can expect to receive from their pharmacists during their inpatient stay as a minimum standard and how this input can be tailored to the individual patient needs. Before we move on to facing challenges and developing new services, we must realise the quality and value of the care currently provided and find innovative ways of communicating this externally. This study demonstrates that this goal is achievable.

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