Book of Abstracts

HPAI Conference 2024

Hospital Pharmacists Association of Ireland (HPAI)

Friday 19th April – Sunday 21st April

Crowne Plaza Santry, Dublin

Table of Contents

Audit

Research

Service Development

Innovation

Audit

A retrospective audit of antimicrobial usage in infants under eight weeks presenting to an Emergency Department (ED) with pyrexia.

Ms. Kara Tedford [1], ***Ms. Aisling Rafferty*** [2]

1. *RCSI,* ***2.*** *CHI*

The aim of this audit was to investigate the current practice across Children's Health Ireland (CHI) sites in terms of antibiotic management of infants less than 8 weeks of age, presenting to the ED with pyrexia and treated using empiric neonatal sepsis guidelines. The analysis included identifying differences in practice between Crumlin and Temple St (TSH) and if there were any areas for quality improvement.

A retrospective chart audit was undertaken in both ED sites to identify 20 infants per site with CSF samples analysed between June and August 2021. All infants presented with fever and had a septic work up before antimicrobial therapy was commenced as per sepsis guidelines. A total of 8 patients were excluded from the final analysis as they had confirmed diagnosis of infection. Tests to determine if there were significant differences between the two sites were completed using permutation sampling hypothesis tests.

The median length of stay was 3 days in Crumlin, 2 days in TSH. The median age was 30 and 35 days in Crumlin and TSH respectively, with all patients aged over 7 days. None of the patients sampled had any significant CSF results, 2 patients had *E.Coli* bloodstream infections and 4 had *E.Coli* growths in urine samples. It was noted that consumption of amoxicillin, gentamicin and cefotaxime was similar in both sites; Crumlin durations of 1.8, 2 and 1.8 days respectively; TSH durations of 2 days for all antibiotics. Permutation testing showed that there were no significant statistical differences between the two hospitals.
The data highlights good antimicrobial stewardship (AMS) across both sites for infants on triple antibiotic therapy following a lumbar puncture. Prompt discontinuation of antibiotic therapy by NCHDs assisted by ward-based clinical pharmacist was observed. In the last 12 months, expanded clinical pharmacy cover on all wards across CHI has increased daily AMS activities via daily kardex reviews, good working relationships with prescribers and increased awareness of side-effect profile of antibiotics. This has contributed to minimising exposure to antibiotics in this vulnerable cohort. The audit also highlighted areas for improvement in terms of diagnostic stewardship between the two hospitals.

An audit of paracetamol prescribing in adult patients at University Hospital Limerick (UHL)

Ms. Amie Giles [1], ***Mrs. Marie Keane*** [1], ***Ms. Anne Barry*** [1]

1. *ULHG*

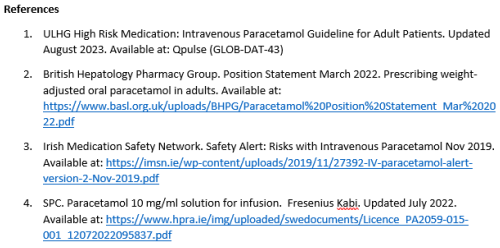
Introduction: Intravenous (IV) paracetamol is a high risk medication and there is a known potential for serious hepatotoxicity. Hepatotoxicity may occur at doses within the therapeutic range of paracetamol in patients with certain risk factors.

Aims: To determine compliance with recommendations for prescribing paracetamol with a view to improving safe prescribing practices, particularly addressing inappropriate prescribing of IV paracetamol. The prescribing recommendations for IV paracetamol are outlined in local policy. Other references (e.g. SPC, BNF and BHPG position statement) guided recommendations for oral and rectal prescribing.

Methods: Data was collected on a sample of adult inpatients (surgical and medical) who had an active prescription for paracetamol. An initial audit was carried out and a quality improvement plan (QIP) was developed. This QIP included: updated local policy for IV paracetamol, 18 paracetamol education sessions delivered by medication safety officers, 'medication safety minutes' circulated, risks highlighted in ULHG Medication Safety Newsletter. The paracetamol section of the adult medication record was updated (including separate sections for PO/PR and IV prescriptions and automatic stop dates for IV prescriptions). Re-audit was completed five months later.

Results: 62 patients were included in the initial audit. 32 patients were included in the re-audit. Re-audit highlighted a number of areas where prescribing had improved. There was a significant reduction in the proportion of patients on paracetamol prescribed the IV route (76% audit vs 19% re-audit). There was a significant decrease in the proportion of patients with multiple routes of administration on the same prescription (61% audit vs 6% re-audit). There was a significant improvement in dose adjustment in patients with risk factors for hepatotoxicity.

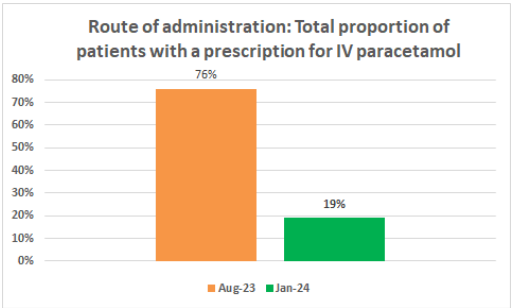
Conclusion: The QIP implemented following audit addressed inappropriate prescribing of IV paracetamol and significantly improved paracetamol prescribing practices. Periodic re-audit is scheduled to sustain improvements.



References

1. ULHG High Risk Medication: Intravenous Paracetamol Guideline for Adult Patients. Updated August 2023. Available at: Qpulse (GLOB-DAT-43)
2. British Hepatology Pharmacy Group. Position Statement March 2022. Prescribing weight-adjusted oral paracetamol in adults. Available at: https://www.basl.org.uk/uploads/BHPG/Paracetamol%20Position%20Statement_Mar%202022.pdf
3. Irish Medication Safety Network. Safety Alert: Risks with Intravenous Paracetamol Nov 2019. Available at: https://imsn.ie/wp-content/uploads/2019/11/27392-IV-paracetamol-alert-version-2-Nov-2019.pdf
4. SPC. Paracetamol 10 mg/ml solution for infusion. Fresenius Kabi. Updated July 2022. Available at: https://www.hpra.ie/img/uploaded/swedocuments/Licence_PA2059-015-001_12072022095837.pdf

References.png



Result figure 1.png

An Audit of Phosphate Binder Prescribing and Administration Timing in Renal Inpatients in Cork University Hospital (CUH).

Ms. Anna Keating [1], ***Ms. Deirdre Lynch*** [1], ***Ms. Jill O'Donnell*** [2]

1. *Pharmacy Department, Cork University Hospital,* ***2.*** *Pharmacy Department,Cork University Hospital*

Introduction:
Hyperphosphataemia in chronic kidney disease (CKD) is associated with severe clinical consequences including, tissue calcification, CKD mineral bone disease, and secondary hyperparathroidism, leading to increased morbidity and mortality. Phosphate binders are used to control hyperphosphataemia. Their mechanism of action is to reduce dietary phosphate absorption in the gastrointestinal tract, to lower serum phosphate levels. Therefore, phosphate binders should be administered with meals to optimise efficacy.
Aims:

1. To determine if phosphate binders are prescribed and administered at ward meal times.
2. To identify any deviation from NICE guidance and manufacturer's recommendations.

Methods:
An audit took place over a two-week period against defined standards taken from NICE Guideline [NG203] Chronic kidney disease: assessment and management, and manufacturer's recommendations in summary of product characteristics (SPC). A medication prescription and administration record (MPAR) review of patients prescribed a phosphate binder and admitted under nephrology was carried out over the two-week period. The four audit standards measured were: prescribed and administered at times which corresponded to meal times, specified to be taken at meals, prescribed in accordance with manufacturer's recommendations and prescribed in accordance with NICE guidance.
Results:
26 patients were prescribed one or more phosphate binders during the data collection period. None of the standards achieved 100%, with three standards at 0%. However, 46% (n=12) of phosphate binders were specified to be taken with meals by prescribers.
Conclusion:
This audit highlighted the need for a significant improvement in phosphate binder prescribing and administration in CUH. The results have guided the proposed quality improvements:

- Develop a self-administration policy for patient own administration, including patient education.
- Develop sticker for MPAR to highlight need for administration of phosphate binder with meals.
- Educate doctors and nurses regarding prescribing and administration at meal times.
- Engage with renal multidisciplinary team to identify further methods to improve practice.

Audit of Impact of Interventions to reduce the incidence of hospital acquired Clostridioides difficile in a HSE Model 3 acute hospital

Ms. Audrey O'Reilly [1], ***Dr. Sumera Bashir*** [2], ***Ms. Elaine Egan*** [3], ***Ms. Fiona Ryan*** [1], ***Dr. Arslan Sohail*** [4]

1. *Pharmacy Department, Tipperary University Hospital,* ***2.*** *Paediatrics Department, Tipperary University Hospital,* ***3.*** *Patient Safety, SSWHG,* ***4.*** *Department of Medicine, Tipperary University Hospital*

Introduction:

Clostridioides difficile infection (CDI) is recognised globally as a leading cause of healthcare associated infection. Symptoms range from diarrhoea and fever to toxic mega colon and in some cases death. This Model 3 hospital did not meet the HSE target of 2.0 cases per 10,000 bed days for 8 out of 12 months in 2022, with the highest rate of incidence falling in Q2 & Q3 2022. 83% of all cases in 2022 occurred in medical patients.

Aim:

To reduce the incidence of Hospital Acquired CDI (HA CDI) in medical patients in a Model 3 hospital from 20 patients in 2022 to no more than 1 new case per month in a 6 month period from January to June 2023.

Methods:

QI tools such as Process maps, Driver diagrams, Fishbone diagrams and Pareto charts were employed in consultation with stakeholders. Stakeholders included the TippUH Patients' Representative group. A patient story was also documented to assist in designing PDSA cycles. Antimicrobial prescribing was identified as a likely primary driver of the increased rate of HA CDI. Numerous small tests of change to improve process measures were undertaken using PDSAs cycles. Outcome measures were tracked on a T chart and displayed on safety crosses. A basic cost analysis was undertaken using findings from a study in a Level 4 Irish hospital.

Results:

The average number of days between newly detected cases of HA CDI in medical patients was 17.35 days in 2022 and 35.8 days from 1st Jan 2023 to 30th June 2023.

Savings of approximately €46,600 for January to June 2023 were calculated.

Conclusion:

The initial 6 month aim of the project was achieved. Key interventions included attendance of a clinical pharmacist on consultant-led ward rounds. Small PDSA cycles resulted in easily measured improvements and fast paced change, generating momentum & energy to facilitate spread. Surgical and maternity patients must now be considered for inclusion in the project. Further investigation of environmental impact of this project and its merit as an example of sustainable quality improvement is warranted. This quality improvement project is ongoing and continues to follow PDSA cycles.

Audit of medication review during in-patient stay in adult patients admitted with a fall

Ms. Sinead Doyle [1]

1. *Portiuncula Univeristy Hospital*

Introduction

Falls are a common cause of hospitalisation, morbidity and mortality in older people.[1] Inappropriate prescribing and polypharmacy is known to contribute to falls risk. There is strong evidence that use of certain medication increases falls risk in older adults and also, that a structured medication review and deprescribing of FRIDs (falls risk increasing drugs) can significantly reduce falls risk.[1] The BGS recommend that all patients should have their medication reviewed with respect to its propensity to cause falls. The aim of the audit was to investigate whether medication review was being carried out in patients admitted with a fall.

Method

The inclusion criterion for this audit was patients admitted with a fall. The inpatient medication charts, medical notes and discharge summaries of these patients were examined to determine if any medication review took place and whether or not changes were made as a result.

Results

20 people were admitted with a fall over a 4 week period.

4 patients RIP.

16 patients had changes to their medication during their stay.(80%)

9 of these changes were to FRIDs. (45%)

50% (n=10) of these changes were carried out by the primary team.

20% (n=4) of these changes were carried out by the consulting team.

For 40% (n=8) of these patients, the change to medication was documented in the notes.

Discussion

Medication review and changes to medication is happening during in-patient stay for patients admitted with fall. However, these changes are made on an ad hoc basis and often without any firm evidence or reasoning for change.

However, the rate of documentation in the notes was poor, with only 40% of these changes being documented. Changes to medication and associated specific instructions on tapering/withdrawal was not thoroughly communicated to GP/patient/carer.

A standardised, more structured approach, with pharmacist input, to medication review and deprescribing should be adopted, as part of a holistic approach to treatment of patients admitted with a fall.

References

1. Age and Ageing 2022; 51: 1–36 https://doi.org/10.1093/ageing/afac205

World guidelines for falls prevention and management for older adults: a global initiative

Audit of piperacillin-tazobactam use amongst General Surgery patients in Connolly Hospital Blanchardstown (CHB)

Ms. Ann-Marie Garvin [1], ***Ms. Amy Byrne*** [1], ***Mr. Colm Devine*** [1], ***Dr. Elizabeth Trautt*** [1], ***Dr. Joanne O'Gorman*** [1], ***Prof. Eoghan O'Neill*** [1]

1. *Connolly Hospital Blanchardstown*

Introduction

Piperacillin-tazobactam is a broad-spectrum antibiotic and is not recommended in CHB for majority of community-acquired infections. General Surgery undergo periodic audits due to high consumption. Local Antimicrobial Key Performance Indicator (KPI) audits have also highlighted dosing issues with piperacillin-tazobactam.

Aims

To ensure use of piperacillin-tazobactam is reserved for:

- Empirical management of specific, largely health-care associated, infections as outlined in CHB Antimicrobial Guidelines.

- Individualised management of infections where microbiology culture results indicate use.
- For infections where resistance is suspected due to failure of previous antibiotic therapy of appropriate duration.

To ensure piperacillin-tazobactam is dosed appropriately for relevant indications as per CHB Antimicrobial Guidelines.

Methods

During a six week period in Autumn 2023 data was collected on surgical wards in CHB. The information captured included:

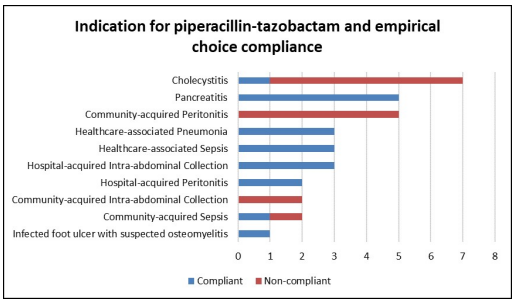
- Compliance of choice of antimicrobial agent(s) with antimicrobial guidelines
- Compliance of duration of antimicrobial therapy with antimicrobial guidelines
- Compliance with IV-PO switch policy for IV antimicrobials
- Documentation of indication for antimicrobial use

Results

33 General Surgery patients receiving piperacillin-tazobactam were identified. Of the four KPIs assessed only one reached local target of compliance; duration of antimicrobial therapy (90.9% - target ≥90%). Documentation of indication, and eligibility for IV-to-PO switch were close to reaching local targets (93.9%-target ≥95%, and 18.2%-target ≤10% respectively). Compliance of antimicrobial choice with local guidelines did not achieve target (57.6%-target ≥85%), consistent with previous audit results from 2020 and 2017. 47% of compliant piperacillin-tazobactam prescriptions were incorrectly dosed (9/19).

Conclusion

Escalation to piperacillin-tazobactam for the treatment of community-acquired infections was found in General Surgery patients largely due to patients receiving incomplete empirical treatment or insufficient duration of empirical treatment. When indicated, piperacillin-tazobactam was dosed incorrectly for nearly half of patients. Results of audit were disseminated in December 2023.



Piptaz audit compliance.jpg

Key Performance Indicator	Target	2023 Compliance	2020 compliance	2017 compliance
Antimicrobial selected is compliant with local policy	≥85%	57.6%	48%	54%
	n	19/33	11/23	26/48
Duration is compliant with local policy	≥90%	90.9%	91%	N/A
	n	30/33	21/23	
Patient on IV antibiotics but eligible for PO switch	≤10%	18.2%	26%	N/A
	n	6/33	6/23	
Documentation of indication	≥95%	93.9%	100%	N/A
	n	31/33	23/23	

Key:

	Red	Has not achieved target
	Amber	Close to achieving target (within 10%)
	Green	Has achieved/exceeded target

Pip taz audit.jpg

Audit of Safe Labelling of High Alert Drugs, Concentrated Electrolytes and Sound-Alike-Look-Alike-Drugs (SALADs) in Beaumont Hospital Pharmacy Department

Ms. Mairi Donald [1], ***Ms. Fiona Norton*** [1], ***Ms. Emma Baker*** [1], ***Ms. Nuala Doyle*** [1]

1. *Dept of Pharmacy, Beaumont Hospital, Dublin*

Introduction

High alert drugs, concentrated electrolytes and SALADs carry a high risk of error and severe patient harm when used in error. Warning labelling is a medium leverage risk minimisation strategy used in combination with other strategies to improve the safety of these medications.
To highlight the risks of high alert drugs, concentrated electrolytes and SALADs in Beaumont Hospital, additional labelling was introduced at the Receipt of Goods (ROG) stage in pharmacy.
Aims

- To measure the current practice of labelling High Alert Drugs, Concentrated Electrolytes, and Sound-Alike-Look-Alike-Drugs (SALADs) 6 months post-implementation.
- To identify areas of poor practice, and further measures required to optimise the safety in relation to labelling of these high risk groups of drugs.

Methods

- All product packs of High Alert Drugs, Concentrated Electrolytes, and Sound-Alike-Look-Alike-Drugs (SALADs) in the dispensary were examined to identify if they displayed the appropriate warning label.
- The positioning of the labels was also examined to identify any other safety concerns.
- Data was analysed to determine compliance and areas for improvement.

Results
Out of 854 products examined:

- 94.6% of products contained the appropriate label.
- 74% of products were found to have the label in a suitable location.
- Specific medications within each risk category were identified which accounted for a large proportion of the non-compliance with labelling requirements.

Conclusion

- High rates of label application to SALAD, High Alert and Concentrated Electrolyte products were identified at the time of this audit. The positioning of labels requires improvement.
- Potential reasons for non-compliance with labelling requirements were considered to be lapses in concentration, a lack of awareness of specific medications requiring labelling (either at ROG or when processing returned medication), inattention to detail, or the inner packaging not labelled at time medications removed from their outer carton.

Recommendations

- Updating ROG and pharmacy returns SOPs with labelling details and provision of labelling templates where these activities are carried out.
- Identify products which require labelling on inner packaging.
- Increased attention to label position on specific products.

- Improved education and awareness for all pharmacy staff on the requirement for appropriate label application.

- Re-audit to measure whether labelling processes have improved.

Audit to assess the Anticholinergic Burden (ACB) Score of medications prescribed across Mayo Mental Health Service.

Mrs. Philippa Renton [1]

1. *Mayo Mental Health Service*

Introduction

Many of the medications we prescribe have anticholinergic properties. These can cause both minor and major adverse events such as dry mouth/eyes, constipation, urinary retention, confusion, dizziness, falls, dementia and an increase in patient mortality.[1, 2]

The purpose of using the **Anticholinergic Burden Calculator** is to aid clinicians in their decision-making during a medication review. It also offers alternatives, which may or may not be more appropriate for that patient. If cessation of the drug is not possible, a dose reduction could be considered, as higher doses carry additional risk. 'As every drug has a cumulative effect, any small strides towards reducing polypharmacy will be advantageous'.[3]

Aims

- To assess the prevalence of prescribed anticholinergic medicines
- To review such medications in terms of their indication, appropriateness, safety and to optimise prescribing.

Method

- Ethical approval was sought.
- An audit tool was created which captured age, sex, diagnosis, ACB Score and contributing medications.
- The audit was conducted between October - November 2023 and involved reviewing medications for 50 service users.

Results and Discussion

Graph 1. This details the ACB Scores calculated

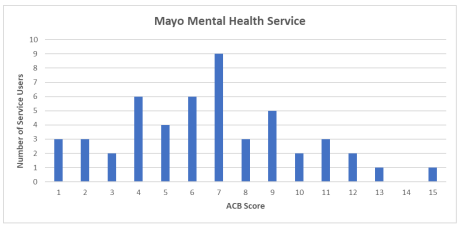
Graph2. This details the medications that were prescribed which contributed to the ACB score

Reports were compiled for prescribers, highlighting scores and medications implicated. Recommendations were made with a view to stop, reduce or switch certain medications. Although patients under our care have valid indications for antidepressant and/or antipsychotic use, regular review of these should occur especially in cases of high dose antipsychotic therapy (HDAT), which itself has been linked with numerous side-effects.

Older patients are more likely to have multiple co- morbidities and be on multiple medications. As the body's ability to metabolise medications declines with age and the permeability of the blood-brain barrier increases, older patients are even more susceptible to the anticholinergic effects of their medications.[4,5,6] Many longitudinal studies have supported this association. [1, 2]

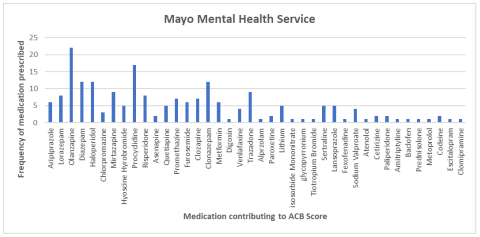
Conclusions

As a service, we are now more familiar with ACB scoring and its significance, especially in older adults. We utilise resources such as the ACB calculator, The Maudsley and Psymatik, which ensures safe and effective prescribing.



Graph 1. This details the ACB Scores calculated

Graph 1 this details the acb scores calculated.png



Graph2. This details the medications that were prescribed which contributed to the ACB score

Graph 2 this details the medications that were prescribed which contributed to the acb score.png

Baseline Audit of the Storage and Labelling of Neuromuscular Blocking Agents (NMBAs) in Beaumont Hospital and St Joseph's Hospital, Raheny

Ms. Mairi Donald [1], ***Ms. Ella Cocoman*** [2], ***Ms. Denise Kilalee*** [1], ***Ms. Nuala Doyle*** [1]

1. *Dept of Pharmacy, Beaumont Hospital, Dublin,* ***2.*** *Trinity College Dublin*

Introduction

Neuromuscular Blocking Agents (NMBAs) are used to induce paralysis during anaesthetic procedures. They cause significant physiological and psychological patient harm when used in error, and have been associated with fatalities due to inadvertent administration to unventilated patients. NMBAs are recognised internationally as High Alert medications.

To reduce the risk of selection errors, risk minimisation strategies were implemented:

- Restriction of supply to clinical areas approved to use NMBAs only.
- Segregation of NMBAs from all other medicinal products.
- Additional warning labels applied to all original packs to highlight the risks of respiratory depression.

Aims

- Identify all areas where NMBAs have been issued since implementation.
- Measure current practice with respect to segregation and labelling of NMBAs in all clinical areas that stock NMBAs.
- Identify areas where practice can be improved.

Methods

- Pharmacy dispensing records were checked to determine if any NMBAs had been issued to any other clinical area.
- All 18 clinical areas approved to use NMBAs were checked to assess the storage and labelling of these medications.
- A data collection form was used to collate results and data analysed.

Results
All issues of NMBAs were to clinical areas approved to stock them. A total of 321 NMBA products were assessed over 18 clinical areas.
88% of NMBAs were found to have been appropriately stored in the designated section(s) of the fridge.
22% of products assessed were found to be un-labelled.

- 90% of these were loose units, removed from the manufacturers original packaging

8% of items discovered in the designated area labelled for NMBAs were found to be non-NMBAs.
22% of clinical areas assessed had appropriately segregated all NMBAs from all other drugs.
Conclusion

- Storage of NMBAs in the designated shelving was good, however there was a low overall rate of complete segregation.

- The majority of un-labelled products were those removed from the original packaging.

Recommendations

- Educate clinical staff of the importance of segregation and retaining products in original packaging as supplied from pharmacy.
- Re-assess fridge space to ensure appropriate storage of non-NMBA items, and encourage the return of products no longer in use to pharmacy.
- Re-audit to evaluate if practice improves.

COMPLIANCE WITH PEDIATRIC DELIRIUM SCREENING IN PICU

Ms. Ahlam Khoshnou [1], Dr. John Hayden [2], Mr. Diarmaid Semple [3]

1. *Royal College of Surgeons in Ireland,* ***2.*** *School of Pharmacy and Biomolecular Sciences RCSI,* ***3.*** *Pharmacy, Childrens Health Ireland Crumlin and School of Pharmacy and Biomolecular Sciences RCSI*

Aims

Paediatric delirium (PD) is is a neuropsychiatric disorder with disrupted cerebral functioning due to underlying disease and/or as a result of critical care treatment. PD presents as hypoactive, hyperactive, or mixed, with hypoactive PD more commonly reported in children[1]. PD is reported in 34% PICU admissions[1].

The European Society of Paediatric and Neonatal Critical Care Medicine (ESPNIC) and Society of Critical Care Medicine recommends screening in 100% of PICU patients from all age groups[2],[3]. As part of a quality improvement initiative (QI) PD screening was introduced to our hospital, with training completed on 11th March 2020. Ad hoc spot checks revealed screening rates less than 50%. An ethics waver by CHI research committee and permission from the PICU research group was granted in March 2022, to start a point prevalence once a week and feedback results to the PICU multidisciplinary risk meeting.

Methods

The PICU is divided into two locations (floors). Patients on each floor were identified using the ward census book. Each electronic medical record (eHR) was accessed and the data collected using an MS Excel sheet.

Data was collected retrospectively by a student on placement from the months March-October.

Results

Of the 565 patients records included, 146 (26%) had a morning PD score undertaken and 127 (22%) had an evening PD score undertaken on the day of audit. Compliance was higher in the morning for floor 1 (30%), with floor 2 having a higher compliance screening in the afternoon (27%). Compliance rates were highest for both floors in May 2022.

Conclusions

Despite formal education for all staff, and all new staff, PD screening rates remain low. Further work is required to identify strategies that could improve rates.

Compliance with the pre-authorisation of reserve antimicrobials: a retrospective audit on meropenem use

Ms. Ciara Lang [1]

1. *University Hospital Galway*

Introduction: Antimicrobial resistance (AMR) is caused by mutations in bacteria's genes. Excessive and inappropriate use of antibiotics accelerates the emergence and spread of AMR. AMR is a global health and development threat. Antimicrobial Stewardship (AMS) aims to reduce AMR through optimising antimicrobials using a variety of structures and interventions. Galway University Hospital (GUH) have a Reserve Antimicrobial Policy, which restricts the use of broad-spectrum antimicrobials such as meropenem, to preserve their effectiveness. Local targets set by the AMS team aim for ≥90% pre-authorisation rates for meropenem and ≤5% of meropenem doses given without pre-authorisation.
Aims: The aim of this study is to determine whether meropenem prescribing adhered to GUH Reserve Antimicrobial Policy and local meropenem consumption key performance indicators.
Methods: A 2 month retrospective audit of meropenem use was carried out over a 6 week period. Patient's drug kardex's, medical notes, laboratory notes, pharmacy dispensing system, ward meropenem log books and electronic systems were accessed to collect data. Data analysis was carried out on excel.
Results: Relatively good compliance of meropenem administration with the GUH Reserve Antimicrobial Policy was observed;

- 52/61 (85%) patients were pre-authorisation for meropenem
- 37/3225 (1%) of meropenem doses were administered prior to pre-authorisation.
- 43/52 (83%) of patients had text messages sent to the red-light phone by the infection specialists confirming pre-authorisation for meropenem.
- 5/9 (56%) of unauthorised meropenem patients had meropenem stopped once referred to an infection specialist.

Conclusion: Local meropenem pre-authorisation targets are ambitious and higher than National and European averages. Results demonstrate significant adherence to the Reserve Antimicrobial Policy. A truer indication of restriction of the use of meropenem, is the number of doses given prior to authorisation and results were well within local targets.
A key element of the audit was to identify and develop quality improvement initiatives to optimise monitoring of meropenem consumption and usage. Suggested initiatives include electronic prescribing, increased education and awareness, increased AMS resources and improved visibility of the 'red-light' log.

Estimating Renal Function for Drug Dosing of Enoxaparin: Concordance between Equations Used in Cork University Hospital.

Ms. Anna Keating [1], ***Ms. Deirdre Lynch*** [2], ***Dr. Virginia Silvari*** [3]

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Introduction

In 2022 Enoxaparin replaced Tinzaparin as the preferred low molecular weight heparin (LMWH) in Cork University Hospital (CUH). A Policy Procedure and Guideline (PPG) was developed to support the switch. Specific guidance was included for dosing with respect to renal function.

Cockcroft-Gault creatinine clearance (C&G) is the recommended equation for determining dose of enoxaparin in the Summary of Product Characteristics (SPC). However, the eGRF by Modification of Diet in Renal Disease (MDRD) equation is frequently used in clinical practice.

Aim

1. To determine compliance with CUH Enoxaparin PPG in patients with renal impairment
2. To assess concordance between the estimated creatinine clearance by C&G and eGFR by MDRD equations, when determining enoxaparin dose.

Methods

A chart review of patients on enoxaparin was carried out by CUH Clinical Pharmacists and Pharmacy students in the Cardiac Renal wards over 4 weeks. Laboratory results including MDRD eGFR were obtained from hospital laboratory system and C&G was calculated using the online calculator MDCalc® application.

The enoxaparin dosing appropriateness for renal function was audited against defined standards from the CUH Enoxaparin PPG, Clexane® SPC and Renal Drug Database.

Data analysis was performed using Microsoft Excel.

Results

In total 204 patients were prescribed enoxaparin during the data collection period.

There was 99% (157/159) compliance with the dosing recommendation in the CUH PPG for the prescribing of Enoxaparin according to C&G dosing band.

95% (152/160) concordance between C&G and MDRD equations for dosing bands.

100% of End Stage Kidney Disease (ESKD) patients were dosed as per specialist sources.

Conclusion

The results provide us with valuable information in prescribing enoxaparin in patients with renal impairment, in particular when C&G cannot be determined. In these situations, MDRD equation, along with clinical judgement, has shown to accurately allow dosing of enoxaparin in patients with renal impairment.

Evaluation of The Use of Etelcalcetide for Treating Secondary Hyperparathyroidism in Haemodialysis Patient's at Cork University Hospital.

Ms. Anna Keating [1], ***Dr. Irina Mihaylova*** [2], ***Ms. Deirdre Lynch*** [1]

1. *Pharmacy Department, Cork University Hospital,* ***2.*** *Department of Renal Medicine,Cork University Hospital*

Introduction

Etelcalcetide, a novel second-generation calcimimetic, is a high cost medication used to treat secondary hyperparathyroidism in adult patients with chronic kidney disease receiving haemodialysis.[1] Etelcalcetide was approved for inclusion with specific criteria on Cork University Hospital formulary in 2018, with use managed by the multidisciplinary team.

Since its introduction, use is increasing.

Aims

1. To determine compliance of etecalcetide prescribing with the hospital formulary inclusion criteria and clinical guidance.
2. To evaluate parathyroid hormone (PTH) levels in patients following etecalcetide initiation.

Methods

A retrospective audit against eight standards, taken from formulary inclusion criteria, Summary of Product Characteristics and National Institute of Clinical Excellence (NICE) guidance was conducted.[1,2] Standards included 100% of patients; meeting formulary inclusion criteria, prescribed doses within licenced range and received appropriate monitoring. Additionally, change in PTH levels during the initiation period was assessed, with a 30% reduction considered an indicator of treatment effectiveness.[2] Patients were identified from the pharmacy patient medication order list from June 2023. Data were obtained from hospital dispensing and clinical management systems. Data analysis was performed using Microsoft Excel.

Results

12 patients received etelcalcetide during the data collection period, up from 5 as per the initial formulary application. One patient was excluded from analysis as they were on therapy for less than 6 months. Six standards achieved 100%, with monitoring of calcium levels achieving 82% (n=9/11).

90% (n=10/11) had a response to therapy, however >30% reduction in mean PTH was achieved in only of 55% (n=6/11).

Conclusion

Etelcalcetide was prescribed in accordance with formulary inclusion criteria and clinical guidance. Calcium monitoring was identified as an area for improvement. Response to therapy will inform unit guidance, with inclusion of dose titration guidance currently being considered.

Ongoing pharmacy-led audit of high cost agents such as etecalcetide is required to ensure appropriate and effective use.

References

1. SPC Summary of Product Characteristics: Parsabiv®. available at: https://www.ema.europa.eu/en/medicines/human/EPAR/parsabiv.
2. National Institute for Health and Care Excellence Technology appraisal guidance [TA448] Published: 28 June 2017 Available at: https://www.nice.org.uk/guidance/ta448.

Improving Guideline Compliant Opioid Discharge Prescribing: A Retrospective Audit of Hospital Discharge Prescribing Patterns in Acute Surgical Patients

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1. *Mater Misericordiae University Hospital,* ***2.*** *Trinity College Dublin*

Introduction

The number of opioids prescribed in Ireland is increasing annually. Surgeons play a pivotal role in opioid stewardship efforts. Excessive prescribing of opioids on discharge has been identified as a focal point for intervention.

Aims

To audit hospital prescriber adherence to opioid discharge prescribing guidelines for acute post-operative pain and to intervene as necessary, using a clinician-mediated multifaceted intervention, to improve post-operative opioid discharge prescribing.

Methods

The study represents a single-centre quality improvement initiative. Opioid-naïve, adult in-patients who underwent cardiothoracic, orthopaedic or colorectal surgery, within an Irish quaternary teaching hospital, and received an opioid prescription on discharge to community were included. A multiplatform opioid stewardship intervention consisting of face-to-face prescriber education with audit feedback, a drug safety memorandum and point-of care computer reminders was enacted over 1 month. Discharge opioid prescriptions were evaluated for guideline compliance pre- and post-intervention and findings were compared using Chi-squared or Mann-Whitney U tests.

Results

101 patients were included, 50 pre-intervention and 51 post-intervention. There were similar distributions in patient and surgical demographics across the two cohorts. Guideline-compliant opioid discharge prescribing increased significantly between the pre- and post-intervention cohort, from 22% to 52.9% (p = 0.001). An improvement in guideline-compliant prescribing was observed in all surgical specialities.

Conclusion

This study represented a successful quality improvement initiative to improve guideline compliant post-operative opioid discharge prescribing and reduce opioid overprescribing. The positive results will be disseminated, via the MMUH Drugs & Therapeutics Committee, across all hospital surgical specialities. Further studies are planned in other surgical cohorts to assess if these promising changes can be achieved, and sustained, across surgical disciplines.

Improving the safety of intravenous potassium chloride in an acute hospital setting – a multi-factorial approach

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Introduction: Concentrated potassium chloride (KCL) is identified by international medication safety bodies as a high alert medication. Misuse of concentrated KCL ampoules has been associated with serious errors and fatalities. A reduction in the use of concentrated KCL ampoules in preference for the use of pre-mixed KCL bags is hoped to improve patient safety.

Aim: To improve the safety of intravenous KCL in Beaumont hospital.

Methods: An audit of 20 prescriptions of intravenous KCL, undertaken in January 2023, analysed the prescribing and administration of intravenous KCL to patients on general wards over a period of one month. Following this audit, a quality improvement (QI) plan was devised and implemented in April 2023. A second audit was undertaken in June 2023. To complement this data, the dispensing volumes of concentrated KCL ampoules to general wards were analysed on a monthly basis. Four audit standards were defined and percentage compliance with each standard was assessed and compared in both audits.

Results: In the first audit 16 out of 20 prescriptions were fulfilled using concentrated KCL ampoules. In the second audit post QI measures 4 out of 20 prescriptions were fulfilled using concentrated KCL ampoules. A statistically significant difference was observed between the two audits, with prescriptions fulfilled using concentrated KCL ampoules reducing significantly ($p < 0.001$). All 4 audit standards experienced an increase in compliance. In January 2023, coinciding with the first audit, 510 ampoules were dispensed to general wards, in June 2023 coinciding with the second audit, this decreased to 294 ampoules dispensed to general wards.

Conclusion: A multi-factorial quality improvement approach to the safe prescribing, dispensing and administration of intravenous potassium chloride has reduced the potential for patient harm in Beaumont hospital. There has been a sustained downward trend in both the dispensing and administration of concentrated KCL ampoules. However, more work is needed on a local and national level to further reduce the dispensing and administration of concentrated KCL ampoules to general wards and to standardise risk reduction strategies required to support the safe use of concentrated potassium in Irish hospitals.

Neonatal Antibiotics Prophylaxis in Surgery (NAPS) – Baseline audit for Quality improvement

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Introduction

Antibiotic prophylaxis is widely used to reduce the incidence of surgical site infection (SSI)[1]. In our institution it was observed that surgical prophylaxis choice, duration and indication were not standardised for neonates undergoing abdominal surgery.

Aim

To analyse neonatal surgical prophylaxis prescribing.

Methods

A retrospective review between January 2021-January 2022 of neonatal prophylaxis was performed, including pathology, classification, corrected gestational age (cGA), sex, antibiotic choice/duration, risk factors, and incidence of post-operative infection.

Results

Of the twenty neonates identified (n=9 female), fifteen (75%) had a GA >37weeks and five (25%) had a GA 32-37weeks at time of surgery. The median age was 2 days and median weight 3.4kg.

Twelve (60%) underwent 'clean-contaminated' procedures and eight (40%) had 'clean' procedures. Procedures included exomphalous repair (n=4), duodenal/jejunoileal atresia (n=5), colostomy/ ileostomy formation (n=5), Ladd's procedure, (n=4), oesophageal atresia (n = 2).

Twelve (60%) had commenced antibiotics pre-surgery; benzylpenicillin/gentamicin(n=8): benzylpenicillin/metronidazole/gentamicin (n=2), and amoxicillin/metronidazole/ gentamicin (n=2).

Post-operative prophylaxis included co-amoxiclav (n = 7); co-amoxiclav/gentamicin (n = 4); amoxicillin/metronidazole/gentamicin (n = 4); benzylpenicillin/metronidazole/gentamicin (n = 4), and benzylpenicillin/gentamicin (n = 1).

At 30-days post-operative, 14 patients (70%) were discharged home, 4 (20%) remained inpatients, 1 (5%) was transferred to a NICU, and 1 (5%) was in ICU.

Discussion

Pre-operative and peri-operative antibiotic combinations in our institution are variable with similar incidence of post-operative infections. This represents an area for practice improvement; rationalising the choice and duration of antibiotic use for a defined list of 'clean' and 'clean contaminated' operations.

Conclusions

Standardising the choice and duration of prophylaxis may reduce unnecessary exposure of neonates to antibiotics, avoid adverse drug reactions, potential medication errors and support the principles of antimicrobial stewardship.

References

[1] Bianchini, S., 2022. Surgical Antimicrobial Prophylaxis in Abdominal Surgery for Neonates and Paediatrics: A RAND/UCLA Appropriateness Method Consensus Study. *Antibiotics*

Neurodiversity: Opportunity for High Impact Person Centred Care

Dr. Bernadette Flood [1]

1. *Avista*

Introduction

'Neurodiversity' describes the wide variation in human brain functions and encompasses many common conditions including Autistic Spectrum Disorder (ASD). Rates of co-occurring epilepsy in ASD are much higher than in the general population and the rate of autism in epilepsy is much higher in people with intellectual disability (PWID).

People with ASD and epilepsy face some stark inequalities – they may have poorer quality of life, poor health and can die early. Pharmacists have a role in reducing the healthcare inequalities and health inequities experienced by this group.

Aims

Baseline audit of residents in a centre for PWID in Dublin area to establish number of PWID, autism and epilepsy supported by on site pharmacist. This preliminary assessment will establish a reference point for future person centred pharmaceutical care for high risk residents.

Method

Data extracted from Pharmacy administrative records organised into evidence table in Excell to illustrate prevalence of intellectual disability, ASD and epilepsy.

Result

Among the seventy residents with intellectual disability in this centre , 15.7% had a diagnosis of epilepsy, 17% had a diagnosis of ASD and four people (6%) had a triple diagnosis of intellectual disability, epilepsy and ASD. These four people are now identified as ' high' risk residents in this population that is already high risk. Demographic Data Table .

Conclusion

The identification in this baseline audit, of four residents with a triple diagnosis of intellectual disability, epilepsy and ASD, provides an opportunity for person centred pharmaceutical care.

Pharmacists and other healthcare professionals have significant autism knowledge deficits. People with neurodiversity need equitable pharmacy services to ensure all medicines are used appropriately. In particular limited knowledge of autism among epilepsy professionals is a concern. Pharmacists need a robust knowledge of autism and the challenges faced by autistic individuals and their carers to provide effective support.

Recommendation:

It is the duty of all clinicians to ensure that they deliver the best care to their patients.

Pharmacy teams in all locations are recommended to identify Pharmacy Neurodiversity/Autism Champion to support provision of whole person care for people with ASD and other conditions.

Demographic Data n = 70

	Number residents	% of residents	Gender	Age (years)	Level of ID
PWID	70	100%	6 Male 64 Female	Age range: 22 - 95 Average: 70	Moderate - 37 Severe - 19 Profound - 1 Not available - 12
PWID & Epilepsy	11	15.7%	11 Female	Age range: 50 -83 Average: 67	Moderate - 2 Severe - 4 Profound - 1 Not available - 4
PWID & ASD	12	17.1%	4 Male 8 Female	Age range: 22-82 Average: 49	Moderate - 7 Severe - 5
PWID & Epilepsy & ASD	4	6%	4 Female	Age range: 58-82	Moderate - 2 Severe - 2

Neurodiversity demographic data feb 2024 hpai.png

Out, damned clot out! Our journey in SVUH

Ms. Niamh O'Hanlon [1], ***Ms. Sinead O'Mahony*** [1], ***Mr. Paul Tighe*** [1], ***Prof. Karen Murphy*** [1], ***Dr. Ian Callanan*** [1]

1. *St Vincent's University Hospital*

Introduction:

This poster outlines SVUH history of quality improvement in relation to venous thromboembolism (VTE) prophylaxis, risk assessment & treatment.
60% of clots happen in hospital or in the 90 days following admission[1]. Our goal is to positively influence this figure, empower our patients to best recognise signs and symptoms of a blood clot, and optimise treatment for those affected.
Aim: To share learning of our approach to dealing with avoidable harm from VTE and endeavour to optimise care & mitigate against preventable harm from VTE for all SUVH in-patients
Methods:

- Audit, audit and more audit – describe the approach taken to obtain on the ground learning, collaborative working with MDT & various in-patient cohorts
- Multidisciplinary short life working group under Medical Executive governance to establish Venous thromboembolism risk assessment and guidance
- Collaboration with regional & national initiatives to enhance VTE prevention

Results:

- Present timeline of outcomes in relation to VTE prevention strategies at SVUH from 2007 onwards including audits undertaken
- 2010 onwards risk assessment published (1st edition 2010, currently revising version 5)
- 2011 VTE risk assessment check part of clinical pharmacists role
- 2013 risk assessment incorporated into the inpatient medication record
- 2016-7 HSE Quality improvement VTE collaborative audit pilot site[2]
- 2017 onwards participation in Ireland East Hospital Group IEHG VTE service review participation
- 2019 onwards Organisational commitment to annual World Thrombosis Day
- 2022 membership of National VTE clinical advisory group
- 2024 Dedicated resources for anticoagulation stewardship – dedicated Thrombosis lead and anticoagulation stewardship pharmacist appointed

Conclusion:
SVUH has a long standing commitment to VTE prevention. In 2024, with dedicated resources including a Thrombosis Lead, an anticoagulation stewardship pharmacist appointment and plans for a VTE advanced nurse practitioner, we can expand our quality improvement strategy to risk mitigate against VTE, and optimise care of patients presenting with Deep Vein Thrombosis & Pulmonary Embolism.
References:

1. Thrombosis Ireland Blood clot alert card Available at https://thrombosis.ie/alert-card/
2. HSE (2018) Preventing blood clots in hospitals. Available at https://www.hse.ie/eng/about/who/nqpsd/patient-safety-programme/medication-safety/1-hse-preventing-vte-report-2018.pdf

Prevalence Of Antibiotic Use in Paediatric Bronchiolitis Within The Hospital Setting

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Background

Bronchiolitis, a common respiratory infection in infants and young children, is primarily caused by respiratory syncytial virus (RSV). Clinical guidelines recommend a conservative approach to antibiotic use in bronchiolitis management. This study aimed to assess the prevalence of antibiotic prescription and the types of antibiotics administered in paediatric patients with bronchiolitis presenting to the emergency department (ED).

Methods

We identified 60 patients with a triage diagnosis of bronchiolitis between November 13, 2023, and November 20, 2023, in the ED. Inclusion criteria were hospital presentation to ED with a diagnosis of bronchiolitis, while patients transferred from another hospital were excluded.

Results

Among the 60 evaluated patients, 27 (45%) required admission, and 33 (55%) were discharged from the ED. Antibiotics were prescribed to eight patients (13%), with seven (11%) admitted and one (1.6%) discharged. Five patients (8%) received antibiotics due to a bacterial co-infection. Antibiotics prescribed included amoxicillin, azithromycin, cefotaxime, cefuroxime, co-amoxiclav, and gentamicin. Antibiotic use was lower in infants <8 weeks old (5%) compared to older infants (8.3%).

Discussion

Antibiotic prescribing in paediatric bronchiolitis cases was conservative, aligning with guidelines. However, the literature suggests that bacterial superinfection is rare. Data categorised by age revealed lower antibiotic usage in infants <8 weeks old, contrary to expectations. This study highlights the need for continued adherence to conservative antibiotic use practices in bronchiolitis management.

Conclusions

This study emphasises the judicious use of antibiotics in paediatric bronchiolitis cases, with a small proportion of patients requiring them. These findings support the importance of following evidence-based guidelines to minimise unnecessary antibiotic prescribing in bronchiolitis, ultimately promoting antimicrobial stewardship in paediatric care.

Two for the price of One: Audit of Anticholinergic use in Dementia and Antipsychotic Prescribing for Non-cognitive Symptoms of Dementia in St John's Hospital.

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1. *St. John's Hospital, Limerick*

Anticholinergic medications are a large and varied group of medications which have long been associated with a decline in cognition. Regular review is recommended in at-risk patient populations, such as those with dementia. Antipsychotics such as quetiapine are used for the management of non-cognitive symptoms and are known strong anticholinergics that also carry an increased risk of stroke when used in patients with dementia.

Aims/Objectives

Evaluate the cumulative effects of anticholinergic use, (*'anticholinergic burden')* by means of the 2012 Update to the Anticholinergic Cognitive Burden (ACB) score in patients with dementia. To audit the prescribing of antipsychotic medications for the management of non-cognitive symptoms of dementia in line with the Department of Health National Clinical Guideline 21.

Methods

This audit was designed as a point prevalence style audit with all inpatients on the day of audit being screened. All inpatients with a confirmed diagnosis of dementia documented in the Universal Healthcare Records (UHCR) were included. A minimum quota of 10 patients was required. Cumulative anticholinergic burden was calculated using the 2012 Update to the ACB Score. Further review was undertaken in the event that patients were prescribed an antipsychotic for the management of non-cognitive symptoms of dementia.

Results

A total of 63 patients were screened, of which, 15.8% (n=10) met inclusion criteria. 80% (n=8) did not have an aetiology stated, nor a severity as defined by the National Clinical Guideline 21. 50% (n=5) patients were actively receiving treatment for dementia, in which 2 cases of potentially under-optimised regimens were identified. 60% (n=6) were prescribed an anticholinergic medication. 4 of which were classified as having a high anticholinergic burden (ACB > 3). 20% (n=2) of patients were prescribed an antipsychotic for the management of non-cognitive symptoms of dementia. Quetiapine was the agent of choice in both patients.

Conclusions

The findings of this audit guided recommendations to be made in terms of documentation of dementia aetiology, medication review on admission with an emphasis on anticholinergics as well as a structured approach to prescribing antipsychotics in this population. A plan to re-audit following implementation of these recommendations is also in place.

Research

Development and Prioritisation of Policy Recommendations for Medication Safety Improvement for Intensive Care Units – A European Association of Hospital Pharmacists Special Interest Group Delphi Study

Dr. Moninne Howlett [1], ***Dr. Suzanne McCarthy*** [2], ***Dr. Virginia Silvari*** [3], ***Prof. Bryony Dean Franklin*** [4], ***Dr. Raisa Laaksonen*** [5]

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Introduction: Medication Errors (MEs) are a leading cause of morbidity and mortality in the healthcare system. Patients admitted to Intensive Care Units (ICUs) are potentially more susceptible to MEs due to severity of illness, the complexity of treatments they receive and the challenging nature of the ICU setting. The European Association of Hospital Pharmacists established a Special Interest Group (SIG) to undertake a programme of work to explore medication safety within ICU environments across Europe and to develop policy recommendations to enhance medication safety.

Aims: To utilise a modified Delphi technique to develop and prioritise a list of policy recommendations to support medication safety improvement in European ICUs.

Methods: Initial policy recommendations for medication safety within the ICU environment were developed following reviews of the literature and engagement with relevant stakeholders. A Delphi panel of 21 members of the SIG, comprised healthcare professionals (HCPs) with expertise in ICU and/or medication safety, was convened in 2022. We conducted two rounds using a modified Delphi technique whereby participants anonymously ranked on a nine-point Likert scale the policy recommendations according to their priority for implementation.

Results: In total, 32 policy recommendations were developed. In Delphi Round 1, 19 HCPs participated; consensus was achieved on most recommendations and partial consensus on six. At Delphi Round 2, 18 HCPs participated. After two Delphi rounds, consensus was achieved on all 32 recommendations. All recommendations were considered 'high priority' except one that was considered 'medium priority'.

Conclusions: Through this study it was possible to develop and prioritise evidence-based policy recommendations to enhance medication safety, which may contribute to reducing MEs in ICUs across Europe. All recommendations were considered 'high priority' for implementation except one, indicating the perceived value of these recommendations in improving medication safety through preventing MEs in ICUs.

Development of OPTI-3S (Criteria for Optimising Medicines by Stopping, Stepping Down, or Switching to Safer Alternatives) for Hospitalised Frail Older Adults

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Introduction

Acute hospitalisation has been identified as a triage point for deprescribing potentially inappropriate medications (PIMs) in frail older persons (1). However, no Potentially Inappropriate Medication (PIM) list has been specifically developed previously for this cohort.

Aims

The study aim was to develop the OPTI-3S core criteria, to optimise medicines in hospitalised frail older adults.

Methods

An extensive literature review was conducted to draft the OPTI-3S preliminary statements. These statements were piloted, refined, categorized into full (130 statements) and core (29 statements) lists, and tailored for different levels of frailty using the Clinical Frailty Scale (CFS). In a three-round Delphi method, a multidisciplinary panel of practising experts (doctors, pharmacists and advanced nurse practitioner) were asked to validate the core list using a 5-point Likert scale. Experts could suggest additional statements for inclusion to the core list from the full list or their expertise. Consensus was predefined as median and 75th percentile ratings of ≤ 2 (*i.e.* strongly agree or agree) for each statement.

Results

Consensus was achieved on the inclusion of 45 statements for optimising and/or deprescribing central nervous system-acting medicines in medical and surgical patients (n=7), antidiabetic agents (n=7), urinary tract medications (n=7), antihypertensives (n=5), antithrombotics (n=5), statins (n=4), heart failure medications (n=2), perioperative analgesia (n=2), osteoporosis medications (n=3), proton-pump inhibitors (n=1), vitamins and supplements (n=1), and anticholinergics (n=1). Several statements covered other issues, such as potential prescribing omissions (n=2), inappropriate prescribing cascades (n=2), appropriate blood pressure and glycaemic targets (n=4). 22 statements apply to a specific frailty level(s), while the remainder apply to all frailty levels (CFS ≥ 4).

Conclusion

The OPTI-3S core list, consisting of 45 consensus-based statements, was developed to guide optimisation of medicines in hospitalized frail older individuals. It provides clinicians with a valuable resource, highlighting potentially inappropriate and preferential medications in this vulnerable cohort.

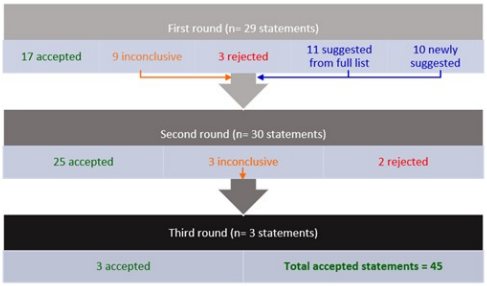

Fig 1 flow chart of the three delphi rounds.jpg

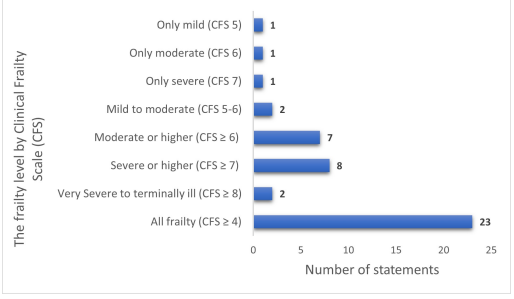

Fig 2 distribution of statements across differing frailty levels.jpg

Evaluation of Automated Dispensing Cabinet Implementation into Children's Health Ireland Emergency Departments: An Observational Study

Ms. Gillian Cawley [1], Ms. Elizabeth Devlin [1], Mr. Yik Zhen Chin [2], Ms. Reena Patel [1], Mr. Michael Fitzpatrick [1], Dr. Moninne Howlett [1]

1. *Children's Health Ireland,* ***2.*** *Royal College of Surgeons in Ireland, Dublin 2, Ireland*

Introduction: Automated dispensing cabinets (ADCs) are increasingly replacing traditional floor stock in Irish hospitals and will be central to delivery of closed-loop medication management in the new children's hospital. Early adoption of ADCs into Children's Health Ireland (CHI) is ongoing, most recently into CHI at Temple Street's emergency department (ED). ADCs have been shown to improve medication safety but studies on economic benefits are limited and mostly US-based.[1,2] Economic evaluations of new technologies are required to support future investment.

Aim: To evaluate the impact of ADC implementation on efficiency of medication management in the ED in CHI at Temple St and compare with data from a similar study conducted in CHI at Crumlin in 2022.

Methods: Data was collected during two 13-week periods, before (February 2023 – May 2023 and after (June 2023 – August 2023) ADC implementation. Data recorded included: number of items dispensed, 'out of hours' medication requisitions, and medication costs. Data was analysed in Microsoft Excel®.

Results: Reductions were found in all measured parameters in the Temple St post-ADC period compared to the pre-period. A 18% reduction was found in number of items dispensed and 54% reduction overall medication costs. The number of 'out of hours' requisitions reduced by 26%. Comparison with Crumlin data showed similar reductions in items dispensed (20%) but reduction in overall medication costs were smaller (20%) and number of 'out of hours' requisitions higher (58%) in Crumlin.

Conclusion: These findings demonstrate that the implementation of ADCs into the EDs in CHI continues to realise significant benefits in both efficiencies and medication costs but differences between implementation sites are evident. Further studies are planned as the use of ADCs expands and they become further integrated into the medication use process within CHI. Evidence from research studies on ADC benefits may support future implementation and investment.

1. Chapuis C et al. Automated drug dispensing systems in the intensive care unit: a financial analysis. Crit Care. 2015;19:318.
2. Institute for Safe Medication Practices (ISMP). ISMP Guidelines for the Safe Use of Automated Dispensing Cabinets. ISMP; 2019.

Evaluation of Clinical Pharmacy Interventions in a Post Discharge non-Acute Hospital Setting

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1. *Pharmacy Department Cavan & Monaghan Hospital,* ***2.*** *School of Pharmacy, University College Cork*

Introduction

Medication is pivotal to the management and recovery of patients in the acute and rehabilitation stages of hospital care. The risks of medication errors and omissions increase when patients transition from one healthcare setting to another and there is a risk of harm[1–3]. The role of the clinical pharmacist is well established in the acute hospital setting, but less so in the non-acute hospital settings of rehabilitation and convalescence[4,5].

Aims

The aim of this study is to evaluate the role of the clinical pharmacist in a post discharge, non-acute hospital setting.

Methods

A cross-sectional, observational study of clinical pharmacist interventions in three ward areas over a six-week period was conducted. Medication errors and drug related problems (DRPs) were recorded. The National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP)[6] index categorised these errors by their potential to cause adverse drug events (ADEs). Cost-benefit analysis was applied using the Nesbit method[7] to score the probability of harm in the absence of pharmacist intervention.

Results

Fifty-one patients participated in the cross-sectional observational study of whom 28 (54.9%) were female. Clinical review of 531 regular and 111 short-term or as required medications occurred. A total of 190 interventions were proposed by the pharmacist, and 177 (93.1%) were fully resolved or accepted by the prescriber. Forty-seven patients (92.2%) required at least one intervention, with an average of 3.5 fully accepted interventions per patient. Cost-avoidance due to pharmacist interventions was calculated at €17,483 versus the cost of the pharmacist service at €3,600. A cost-benefit ratio of 4.85:1 was achieved.

Conclusion

The current study furthers previous work and supports the role of the clinical pharmacist in the post discharge, non-acute setting of rehabilitation and convalescence. Clinical pharmacy in this setting, can cost-effectively contribute to patient safety and reduction of harm from potential and actual ADEs.

References

1. World Health Organization. Medication Without Harm. WHO. Published 2021. Accessed November 2, 2021. https://www.who.int/initiatives/medication-without-harm
2. Love B. Report of the findings of the Point Prevalence Survey of Antimicrobial Use in HSE Older Persons Residential Care Facilities. HSE Ireland. Published April 7, 2021. Accessed November 2, 2021. https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/prescribing-ltcf/final-national-report-pps-of-antimicrobial-use-in-hse-rcfs-for-older-persons-april-2021.pdf
3. Pérez T, Moriarty F, Wallace E, McDowell R, Redmond P, Fahey T. Prevalence of potentially inappropriate prescribing in older people in primary care and its association with hospital admission: Longitudinal study. *The BMJ*. 2018;363. doi:10.1136/bmj.k4524
4. Willoch K, Blix HS, Pedersen-Bjergaard AM, Eek AK, Reikvam A. Handling drug-related problems in rehabilitation patients: A randomized study. *Int J Clin Pharm*. 2012;34(2). doi:10.1007/s11096-012-9623-5
5. Kose E, Wakabayashi H. Rehabilitation pharmacotherapy: A scoping review. *Geriatr Gerontol Int*. 2020;20(7). doi:10.1111/ggi.13975
6. National Coordinating Council for Medication Error Reporting and Prevention. NCC MERP Index for Categorizing Medication Errors Algorith. NCC MERP. Published February 2001. Accessed November 22, 2021. https://www.nccmerp.org/sites/default/files/algorColor2001-06-12.pdf
7. 7. Nesbit TW, Shermock KM, Bobek MB, et al. Implementation and pharmacoeconomic analysis of a clinical staff pharmacist practice model. *American Journal of Health-System Pharmacy*. 2001;58(9). doi:10.1093/ajhp/58.9.784

References.png

Exploration of anticoagulation stewardship programmes in Irish hospitals: a survey study

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Background

Anticoagulation stewardship programmes (ASPs) aim to achieve optimal anticoagulant-related health outcomes and minimize avoidable adverse drug events.

Aims

To determine whether ASPs are implemented in Irish hospitals, and to identify barriers to ASP implementations.

Methods

An online survey was created using Microsoft Forms and distributed via relevant professional networks across Ireland. This study was reported according to the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). Participants were invited via email and social media promotion. The survey questions were designed through a collaborative and iterative process among the researchers. Independent researchers piloted the final draft of the survey before being available online. Descriptive analysis was used to determine the level of implementation of ASPs in Irish hospitals, and responses obtained from the survey were evaluated to determine respondents' perceptions of the barriers to ASP implementation.

Results

Overall, there were 34 respondents, with 26.4% physicians, 53% pharmacists and 20.6% nurses. In total, 27/34 (79%) respondents were aware of the concept of ASP with 7/34 (20.6%) respondents reporting that their hospital had an ASP implemented and 9/34 (26.5%) reporting that their hospitals were working on implementation. While 17/34 (50%) of participants reported that they did not have ASP in their hospitals, all (17/17) agreed that their institution would benefit from having the ASP. The three main barriers identified by the respondents were: insufficient healthcare professional (HCP) time allocated to ASP (n=24), insufficient number of HCPs dedicated to ASP (n=22) and insufficient financial resources to develop and implement ASP (n=19).

Conclusion

While the establishment of ASPs in Irish hospitals is considered by HCPs to be beneficial to ensure quality and safety when anticoagulants are used, the establishment of ASPs is still limited across the country. National efforts should be coordinated to overcome the existing barriers preventing ASP implementation and allow for safer anticoagulation use.

Investigating the real-world impact of a clinical decision support tool to assist insulin prescribing with an electronic patient record (EPR).

Ms. Sinead Kelly [1], ***Mr. Melwin Solis*** [2], ***Ms. Roisin Friars*** [2], ***Mr. Robert Staunton*** [2], ***Ms. Eimear Roche*** [3], ***Ms. Miriam Coghlan*** [4], ***Ms. Michelle Lynch*** [4], ***Mr. Bernard Carr*** [4], ***Ms. Gail Melanophy*** [4]

1. *Informatics Directorate, St James's Hospital,* ***2.*** *RCSI,* ***3.*** *Informatics,* ***4.*** *Pharmacy Department, St James's Hospital*

Introduction:

An interruptive alert to flag high doses of Insulin to prescribers was supplied by the vendor during the implementation of an Insulin management solution within an electronic patient record (EPR) at St James's Hospital, Dublin. The cut-off doses for triggering the alert were 25 units for rapid/short-acting and biphasic preparations and 50 units for long/intermediate-acting preparations, as recommended by the vendor.

Before implementation, shortcomings in the alert's functionality, arising from technical system constraints, were identified.

A post-implementation audit was proposed to assess whether the identified limitations surpassed the benefits within a practical context.

Aims:

The aim was to evaluate the volume and pattern of high-dose insulin alerts in the system using a standard reporting tool specifically designed for auditing alert behaviour.

Methods:

A system audit report encompassing alerts generated over a six-month duration from April to October 2023 was acquired, and a comprehensive chart review was conducted on patients linked to these alerts to gather pertinent information concerning the corresponding prescribing events.

Subsequent to data acquisition, an analysis was undertaken to determine the patterns and characteristics in both the alerting occurrences and the associated insulin prescriptions.

Results:

There were 3,631 completed inpatient prescriptions for subcutaneous insulin in 627 patients during the study period. 300 alerts fired in 62 patients (8% alerting rate) with a disproportionately high alerting rate in prescriptions for biphasic insulin (47%) vs long-acting (3%) and rapid acting (2%). The reason for alerting was indiscernible in 70 instances (23% of cases). Where the alerting reason was identifiable, 30% of alerts were due to a technical limitation. Limitations in the audit tool meant it was not possible to identify if high doses were amended due to alert firing.

Conclusion:

The audit encountered challenges in substantiating the positive impact of the alert and revealed a notable prevalence of false alerting, alongside a disproportionately high rate of alerts triggered by intentional prescribing of biphasic insulin doses greater than 25 units.

The findings of the audit will be presented to the Endocrinology and Pharmacy teams for deliberation on the retention and/or modification of the alert to accommodate biphasic products.

Measuring adherence to chronic therapies over 2 years of treatment with elexacaftor-tezacaftor-ivacaftor in people with cystic fibrosis—the RECOVER Study

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- S. Sutton[1,2], J. Hayden[2], M. Howlett[1,2], K. Lester[2], J. Davies[3,4], B. Elnazir[5,6], E. McKone[7], D. Cox[1], B. Linnane[8,9], P. O'Regan[10], L. Kirwan[11], A. Quittner[12], P. McNally

Introduction: Adherence to treatment in people with CF (PwCF) is suboptimal. RECOVER is a multicenter post-approval study of clinical outcomes in PwCF prescribed elexacaftor-tezacaftor-ivacaftor (ETI) across Ireland and the UK.

Aim: To determine adherence to therapies after 2 years on ETI
Methods: Adherence over 2 years was assessed using two methods: medication possession ratio (MPR) from pharmacy refill data and self-reported questionnaires (SRQ) [treatment adherence questionnaire (TAQ) and Adherence Barriers Questionnaire (ABQ)] for all study participants.
Results: Available data (n=75) completed 2 years of the study. MPR data: adherence decreased for dornase alpha from baseline to 12 months [74% to 60.9% (p=0.090)], 12 to 24 months [60.9% to 49% (p=0.0004)], hypertonic saline from baseline to 12 months [69% to 58% (p=0.01)], 12 to 24 months [58% to 56% (p=0.056)], and azithromycin from baseline to 12 months [61% to 55% (p=0.01)], 12 to 24 months [55% to 48.5% (p=0.77)]. TAQ data: adherence decreased for airway clearance baseline to 12 months [83.5% to 75.5% (p=0.33)], 12 to 24 months [75.5% to 70.5% (p=0.10)], dornase alpha from baseline to 12 months [90.3% to 86.6% (p=0.3428)], 12 to 24 months [86.6% to 82.3% (p=0.833)], and hypertonic saline from baseline to 12 months [90.1% to 84.5% (p=0.1017)], 12 to 24 months [84.5% to 72.6% (p=0.1176)] and azithromycin increased from baseline to 12 months [87.5% to 94.6% (p=0.2785)], 12 to 24 months [94.6% o 100% (p>0.99)]. MPR data: adherence increased from 84.5% (CFTR modulators) to 92.6% (ETI) at 12 months (p=0.0046) but decreased to 81.2% at 24 months (p=0.007). TAQ data: adherence increased from 95.6% at baseline (CFTR modulators) to 96.8% for ETI at 12 months (p=0.57) but decreased to 95.4% for ETI (p=0.5892) at 24 months.
Conclusions: SR adherence to ETI was overestimated in comparison with MPR. MPR data showed a reduction in ETI adherence from 12 to 24 months. Adherence to CF therapies is poor overall, and initiation of ETI may further reduce adherence to other therapies.
Acknowledgements: CFF, UK Cystic Fibrosis Trust, and Cystic Fibrosis Ireland.

Patients with difficulty swallowing solid oral dose forms: What does the literature say?

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Introduction

Difficulty with swallowing solid oral dose forms (SODFs) such as tablets and capsules can be a reason for patient non-adherence with prescribed medicines. Medication administration errors can occur when the SODF is modified to facilitate administration e.g. by crushing a tablet.

Aims

The aim of this systematic review was to identify and critically appraise the available evidence regarding SODF challenges with oral medicine administration to inpatients in a variety of healthcare settings such as (1) in hospital, (2) nursing homes and (3) long-term stay units (LTSU).

Methods

A comprehensive, systematic literature search was completed in September 2021 and repeated in June 2023 in the following databases: PubMed, EMBASE, CINAHL, Scopus, Web of Science, The Cochrane Library, PsycINFO and ProQuest. The quality of eligible studies was assessed using the Critical Appraisal Skills Programme CASP checklist for Cohort studies. A Microsoft Excel® spreadsheet was devised to classify the following data from each included study: • Study author and year • Country • number of participants • Title • Duration (follow-up period) • Study design • inclusion, exclusion criteria • method and data collection • relevant outcomes • key findings.

Results

A total of 3023 records were identified with 12 articles[1-12] being included in the final systematic review. Seven of the twelve studies reported on the prevalence of difficulties swallowing SODF which varied from 10% - 34.2%[1-5, 8, 11]. Nine of the twelve studies reported the methods used to manipulate the SODF with the most reported method being tablet crushing[2-5, 7, 8, 10-12].

Conclusion

Considering the prevalence of difficulty swallowing SODFs and as a consequence the modification of SODFs to facilitate administration, it is important to have systems in place to identify patients with swallowing difficulties. This will help to ensure mitigation of the risks associated with inappropriate modification of SODFs e.g. toxicity, lack of efficacy and enhanced occupational exposure to drugs.

Pharmacy Stakeholders' Views and Experiences of the Credentialing of Advanced or Specialist Pharmacist Practice: A Mixed Methods Systematic Review

Ms. Evelyn Deasy [1], ***Ms. Anna Seoighe*** [1], ***Prof. Cristín Ryan*** [2], ***Prof. Stephen Byrne*** [3], ***Dr. Kieran Dalton*** [3]

1. *Tallaght University Hospital,* ***2.*** *Trinity College Dublin,* ***3.*** *1Pharmaceutical Care Research Group, School of Pharmacy, University College Cork, Ireland*

Introduction: Credentialing of advanced and specialist pharmacist practice (ASPP) is advocated to provide quality assurance and public confidence. A global report and a country case study synthesis by the International Pharmaceutical Federation found that several credentialing models are in place or under development internationally (1, 2). Synthesis of the views and experiences of pharmacists and other relevant stakeholders on credentialing appears an important research gap.

Aim: To undertake a systematic review to determine pharmacy stakeholders' views and experiences of ASPP credentialing and to explore contextual facilitators and barriers to credentialing implementation and uptake.

Methods: The Joanna Briggs Institute convergent integrated approach for mixed methods systematic reviews was followed. The review protocol was pre-registered with PROSPERO. Four electronic databases (Medline, CINAHL, Web of Science, Google Scholar) were searched from inception to August 2022 for qualitative, quantitative, or mixed methods studies that reported the views and experiences of pharmacy stakeholders on ASPP credentialing. Included studies were quality appraised using the Mixed Methods Appraisal Tool. Data from included studies were analysed and integrated using thematic synthesis. Screening and data extraction were performed by two reviewers independently, with additional author input where required.

Results: Sixty studies were included, after screening titles and abstracts (*n*=9,061) and full texts (*n*=228), representing the views of pharmacists, pharmacy managers/employers and professional/representative bodies in hospital, community pharmacy, primary care, and academic sectors, from 38 countries. Four analytical themes were generated describing the factors, including facilitators and barriers, to be considered when developing or optimising ASPP credentialing: (i) Drivers of credentialing, (ii) Developing ASPP competence, (iii) Optimising credentialing implementation and (iv) Enhancing credentialing uptake.

Conclusion: This unique synthesis of the views and experiences of pharmacy stakeholders' should be considered by pharmacists, policymakers, and other key stakeholders when developing or optimising ASPP credentialing in the future.

References: 1. Galbraith, K., & Bates, I. (2015). Advanced Practice and Specialisation in Pharmacy: Global Report 2015.

2. Bader, L. R., Bates, I., & Galbraith, K. (2020). Trends in advanced practice and specialisation in the global pharmacy workforce: a synthesis of country case studies. *International Journal of Pharmacy Practice*, *28*(2), 182-190.

Potentially Inappropriate Prescribing and Polypharmacy in Older Adults with Atrial Fibrillation: A Retrospective Observational Study

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1. *Tallaght University Hospital,* ***2.*** *Trinity College Dublin*

Background: Pharmacotherapy is central to the treatment of atrial fibrillation (AF) and the comorbidities commonly found in patients with AF. Due to their complex comorbidities, AF patients are at risk of both polypharmacy and potentially inappropriate prescribing (PIP). The common use of high-risk medications such as anticoagulants, increases the risk of harm from their medications[1].

Aim: To describe and assess the appropriateness of prescribing for older adults with AF presenting to a multidisciplinary outpatient clinic.

Method: Retrospective observational study of medical records of patients who attended a multidisciplinary AF outpatient clinic over a one-year period in 2022. The following population were included: older adults (>65 years at time of attendance), with confirmed AF, attending clinic for the first time, and attending in person. Prescribing was assessed using the STOPP/START criteria[2]. These criteria were applied using a computer program (stoppstartR). This program was designed by the researcher (ID) and is available at https://github.com/IarlaithDoherty/stoppstartR. Direct oral anticoagulant prescribing was assessed separately. Risk factors for potentially inappropriate medications (PIM) and potential prescribing omissions (PPO) were assessed through multivariable logistic regression.

Results: One hundred and sixty-eight patients (59.4% male; median age: 74 years; range: 65–94 years) were included. Patients had a median of six comorbidities (IQR 4-9) and were prescribed a median of six medications (IQR 4-9). Minor polypharmacy (5-9 medications) was found in 53% (n=89), and major polypharmacy (>9 medications) was found in 21.4% (n=36). PIP was present in 75.6% (n=127). The majority (60.1%, n=101) had at least one PIM and 46.4% (n=78) had a PPO. Anticoagulants were inappropriately dosed in 11.6% (n=13) of patients. There were positive associations between number of medications prescribed and PIM ($p=3.62x10^{-6}$), and between number of comorbidities and PPO ($p=2.22x10^{-5}$).

Conclusion: Polypharmacy and PIP were prevalent in this population of older adults with AF. Interventions are needed to optimise prescribing in this cohort.

References:

1. Wang Y, et al. Old age, high-risk medication, polypharmacy: a 'trilogy' of risks in older patients with atrial fibrillation. Pharm Pract (Granada).2016;14(2):706.

2. O'Mahony D et al. STOPP/START criteria for potentially inappropriate prescribing in older people: version 2. Age Ageing.2015;44(2):213-8.

Report of Antimicrobial Stewardship (AMS) Intervention Implementation in Connolly Hospital Blanchardstown (CHB)

Ms. Ann-Marie Garvin [1], ***Ms. Amy Byrne*** [1], ***Mr. Colm Devine*** [1], ***Dr. Elizabeth Trautt*** [1], ***Dr. Joanne O'Gorman*** [1], ***Prof. Eoghan O'Neill*** [1]

1. *Connolly Hospital Blanchardstown*

Introduction

A core strategy of AMS programs is *Prospective Audit and Feedback* (PAF). This involves review of antimicrobials post-prescription by member(s) of Antimicrobial Stewardship Team (AST). PAF interventions have been shown to improve antibiotic use, reduce antibiotic resistance, and reduce CDI rates. Achieving these beneficial outcomes requires a high degree of voluntary adherence to interventions.

Aims

- To determine AMS PAF intervention acceptance rates in CHB.
- To determine any potential barriers and facilitators to implementation following assessment of speciality, intervention type, communication method, PAF method and implementation rate depending on AST member speciality.

Methods

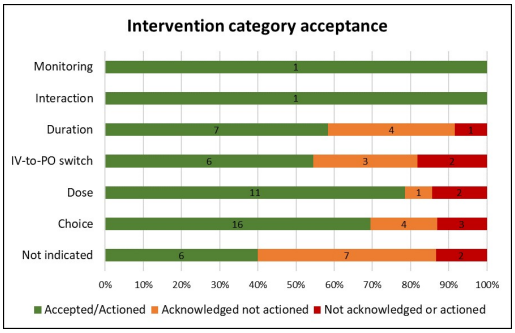
During an 11.5 working day period in December 2023 AMS interventions undertaken by 0.8WTE AMP were followed up after a minimum of 24 hours to determine implementation.

Results

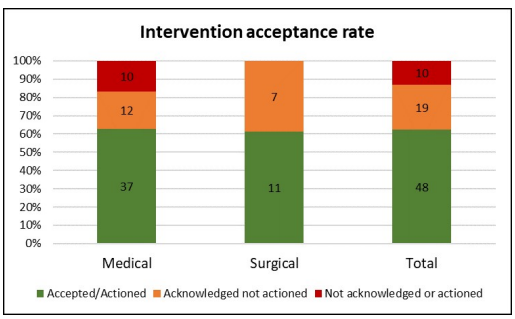
77 AMS interventions were made for 75 patients and 62% (n=48) of interventions were accepted. Acceptance rates were slightly higher for medical patients (37/59, 63%) than surgical patients (11/18, 61%). Higher acceptance rates were noted when the recommendation involved modifying therapy (35/50, 70%) versus stopping therapy (13/27, 48%). Overall acceptance rates were lower for interventions by written communication only (12/24, 50%) versus those by written plus verbal communication (36/53, 68%). Acceptance rates varied by PAF method: AMS ward round interventions had a 59% acceptance rate (37/63) whilst AMS interventions outside of rounds had a 79% acceptance rate (11/14). Acceptance rates were similar for interventions recommended by AMP alone (44/70, 63%) compared with those recommended by AMP and Consultant Microbiologist (4/7, 57%).

Conclusion

CHB PAF acceptance rate during this study was 62%. PAF acceptance rates will be incorporated into local quarterly KPIs for continual monitoring. Modifiable aspects of AMS program which may improve acceptance rates will be targeted including: continuity in AMS rounds; enhanced education and training; enhanced institutional leadership on AMS; introduction of procalcitonin as a biochemical prescribing aide.



Ams intervention category.jpg



Ams intervention acceptance rate.jpg

Review of Intravenous Fluid Prescriptions in a Tertiary Paediatric Teaching Hospital: An Observational Study

Dr. Moninne Howlett [1], ***Mr. Yik Zhen Chin*** [2], ***Ms. Reena Patel*** [1], ***Ms. Karen Lavelle*** [1]

1. *Children's Health Ireland,* ***2.*** *Royal College of Surgeons in Ireland, Dublin 2, Ireland*

Introduction: Manipulation of intravenous fluids (IVFs) to fulfil prescribed solutions can be necessary in hospitalized children.[1,2] The addition of glucose or electrolytes, including concentrated potassium chloride, increases risk of error.[3] To minimise risk, a range of suitable base solutions must be stocked. Use of unapproved abbreviations can also increase risk[4]. In the new children's hospital, paper prescriptions will be replaced by an Electronic Healthcare Record (EHR); a review of current IVF prescribing in Children's Health Ireland (CHI) is required to support EHR configuration.

Aim: To review current practice around prescribing of IVFs to identify the most common types of IVFs prescribed, frequency and range of base solution manipulation, and abbreviation use.

Method: Details of all in-patient IVF prescriptions, excluding medication infusions, were recorded between 26/06/2023 and 12/07/2023 in CHI Crumlin and CHI Temple Street. Infusions prescribed were compared to the ward IVF stock-list to determine the frequency of base solution manipulations required to fulfil prescriptions and use of unapproved abbreviations.

Result: Details of 178 prescriptions were recorded from 28 wards. Twenty-three variants using 7 base solutions were identified. Sodium Chloride 0.9% w/v with Glucose 5% w/v was the most common prescribed IVF. 30% of prescriptions required manipulation of a base solution; 62% of these involved addition of concentrated potassium chloride, most commonly to Sodium Chloride 0.9% w/v with Glucose 5% w/v (64%). 30% of manipulated IVFs involved addition of Glucose. Unapproved abbreviations were identified on 31% of prescriptions.

Conclusion: Almost a third of prescribed IVFs in CHI require manipulation of stocked base solutions. Sourcing commercially available IVFs aligning with commonly identified manipulated solutions in CHI would substantially reduce IVF manipulation and comply with medication safety recommendations.[3,4] Findings from this study will support the move to electronic prescribing in the new children's hospital.

SKIPPING THE DIP: Assessing awareness of urine dipstick testing in the West of Ireland

Ms. Sabrina O'Regan [1], ***Dr. Dimitar Nashev*** [2], ***Dr. Ruth Waldron*** [2]

1. *Portiuncula Univeristy Hospital,* ***2.*** *Saolta University Healthcare Group*

Introduction

Inappropriate use of dipstick urinalysis can lead to inappropriate antibiotic prescribing which may cause harm (1). In 2023 the "SKIP THE DIP" initiative was launched in Ireland to increase awareness of best practice guidance in assessment of UTIs in patients over 65 years of age and in patients with long-term urinary catheters in community settings (2). Previous studies were carried out in a Model 2 and 3 hospital in the West of Ireland in 2019 regarding knowledge of health care workers (HCWs) in this area.

Aims

We aimed to assess HCWs understanding of the limitations of using urine dipstick testing in the assessment and diagnosis of UTIs in elderly patients and in patients with long-term urinary catheters and to compare it to the previous survey.

Methods

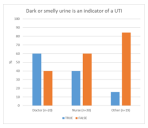
A questionnaire was developed in line with a previous study (3). It was circulated to all HCWs working in these 2 hospitals during World Antimicrobial Awareness Week (WAAW), by email or in hard copy.

Results

Seventy HCWs participated in the survey in 2023, 39 HCWs participated in the survey in 2019. In 2023 90% (n=70) were aware that urine dipstick tests are likely to be positive if there are bacteria in the urine whether they are causing an infection or not versus 72% (n=39) in 2019. In 2023 39% (n=69) of participants incorrectly believed that that dark or smelly urine alone is an indicator of a UTI, as shown in Figure 1, in 2019 28% (n=39) believed that foul smelling urine was an indicator of a UTI.

Conclusion

The study demonstrates HCWs have a good understanding that urine dipsticks are not a useful or reliable tool in assessing for evidence of a UTI. However, improvement in knowledge is needed to ensure that all HCWs are aware that dark or smelly urine alone is not an indicator of a UTI.



Abstacturinedipstick2024.png

References

1. Public Health England. Diagnosis of urinary tract infections: Quick reference tool for primary care for consultation and local adaptation. May 2020(cited 2024 Feb 15). Available from https://assets.publishing.service.gov.uk/media/5f89809ae90e072e18c0ccc2/UTI_diagnostic_flowchart_NICE-October_2020-FINAL.pdf
2. HSE Community Antimicrobial Pharmacists Group. Skip the dip for urinary tract infections in over 65s. September 2023(cited 2024 Feb 15). Available from https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/prescribing-ltcf/hse-skip-the-dip-a4-staff-booklet-digital-version-final.pdf
3. Lee M, Moonsuk K.,Nak-Hyun K.,Chung-Jong K., Kyoung-Ho Song,Pyoeng Gyunet al. Why is asymptomatic bacteriuria over treated A tertiary care institutional survey of resident physicians BMC Infectious Diseases (Internet).2015;15:289. Available from doi.org/10.1186/s12879-015-1044-3f (Accessed 20th October 2019)

References urine dipstick 2024.png

The characteristics and pharmaceutical care needs of patients receiving weekly review by clinical pharmacists in a tertiary teaching hospital

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Introduction: Prioritisation of patients for clinical pharmacy review is becoming increasingly important.
Aim: This study describes hospital inpatients considered suitable for weekly rather than daily review by clinical pharmacists, and the drug related problems encountered at weekly review.
Methods: A retrospective chart review was conducted on 23 patients moved to weekly review from April to August 2023. Data was collected on patient demographics, pharmacist's rationale for moving patients to weekly review, and drug related problems encountered.
Results: The median age of patients was 77 years (IQR = 20years), over 60% of patients were male and patients had a median of 6 (IQR = 7.5) regular pre-admission medicines. Most patients were admitted from home and they had a variety of admitting complaints. Almost half the patients were moved to weekly review as their admitting complaint was resolved/stable and discharge planning was ongoing. Seven drug related problems were encountered at weekly review. These included medication supply, dosing, adverse effects and prescription transcription errors. There were nine occasions, affecting five patients, where the pharmacist reviewed the patient earlier than planned, mostly when alerted to a medication change by nursing colleagues.
Conclusion: An alternative approach to prioritisation is described. Variability in patient characteristics means clinical judgement is necessary to choose appropriate patients, and changes to patient's clinical status may mean they revert to more regular reviews.

To evaluate clinical effectiveness, safety, and patient experience with apixaban for extended venous thromboembolism (VTE) prophylaxis after major abdominal surgery, for patients with gynaecologic malignancies at Cork University Maternity Hospital (CUMH)

Ms. Alana Dineen [1], ***Ms. Jennifer Cotter*** [2], ***Mrs. Joan Ryan*** [1], ***Ms. Deirdre Lynch*** [3], ***Dr. Zibi Marchocki*** [4]

1. *Pharmacy Department,Cork University Hospital,* ***2.*** *School of Medicine, University College Cork, Cork,* ***3.*** *Pharmacy Department, Cork University Hospital,* ***4.*** *Cork University Maternity Hospital, Cork*

Introduction –The use of an oral preparation for VTE prophylaxis in suitable patients on discharge instead of low molecular weight heparin can improve safety and adherence upon discharge, and reduce the risk of adverse events and missed doses.

Aims - To determine efficacy, safety, and patient satisfaction with apixaban for extended VTE prophylaxis post major abdominal surgery, for patients with a gynaecologic malignancy at CUMH.

Methods –

This was a patient-based, observational study comparing rates of major bleeding and postoperative complications in patients prescribed either apixaban or tinzaparin post-discharge for postoperative thromboprophylaxis for 28 days.

Patient's experience, including adherence and satisfaction with apixaban, was assessed via a questionnaire.

Results –

There were no statistically significant differences between the apixaban and tinzaparin cohort in terms of major bleeding events (4.8% vs 0%, p = 0.33) and clinically relevant non-major bleeding events (9.5% vs 0%, p = 0.1).

13.3% (n=2) of the survey respondents experienced an episode of epistaxis while on apixaban. One of these patients had received an incorrect prescription for double the recommended apixaban dose.

100% of patients (n=15) deemed apixaban easy to take, with over 80% (n=12) strongly agreeing.

68% (n=15) completed the patient apixaban adherence and satisfaction questionnaire.

80% (n=12) of those who completed the questionnaire were deemed adherent to the regimen, defined as missing < 2 doses of their VTE prophylaxis. 20% (n= 3) were deemed non adherent.

93.3% (n=14) disagreed that it was difficult to remember to take their VTE prophylaxis.

Conclusion –This patient-based, observational study and questionnaire demonstrated that VTE prophylaxis with an oral DOAC post discharge, has been shown to improve medication adherence and patient satisfaction, while maintaining safety and clinical effectiveness.

Due to the criticality of VTE prophylaxis for this patient cohort, a local guideline was developed in CUMH as an important tool in managing this risk safely for these patients.

Usability Evaluation of an Insulin Management Solution within an Electronic Patient Record (EPR)

Ms. Sinead Kelly [1], ***Ms. Eimear Roche*** [1], ***Dr. Eileen Relihan*** [2], ***Ms. Diana Paul*** [1], ***Ms. Selina Ryan*** [1], ***Ms. Muireann Vaughan*** [3], ***Ms. Miriam Coghlan*** [3], ***Mr. Bernard Carr*** [3], ***Ms. Gail Melanophy*** [3], ***Dr. Niamh Phelan*** [4]

1. *Informatics Directorate, St James's Hospital,* ***2.*** *Medication Safety Office, St James's Hospital,* ***3.*** *Pharmacy Department, St James's Hospital,* ***4.*** *Endocrinology Department, St James's Hospital*

Background

There is evidence to suggest that poor usability of Health Information Systems is associated with negative outcomes including low efficiency and increased risk of medical error. [1] Standardised usability questionnaires have been developed to evaluate usability and recently a novel tool was developed to measure the usability of clinical decision support systems in healthcare environments. A customised insulin management solution was developed and implemented in our hospital to migrate insulin prescribing, administration and review from paper to our Electronic Patient Record. Assessing the usability of the solution was identified as a way of determining potential areas for optimisation and training post-implementation and of informing future design decisions.

Aim and objectives

To assess and compare perceived usability of the insulin management solution across the clinical disciplines

Methods

The Healthcare Systems Usability Scale (HSUS) was used to assess usability among system users from the medical, nursing, pharmacy and clinical nutrition professions. [1] HSUS assessed usability in four subscales; patient safety and decision effectiveness, workflow integration/ease of use, work effectiveness and user control. An Independent-Samples Kruskal-Wallis Test was for statistical analysis.

Results

226 users from medical, nursing, pharmacy and clinical nutrition disciplines completed the HSUS assessment. The average usability score was 81%. There was no significant difference in overall usability scores based on the respondents' discipline. Concerning subscales, the only significant difference between disciplines was in the workflow integration/ease of use domain between the pharmacist and nursing groups (70.8% vs 79.6% p = 0.020).

Conclusion and relevance

The insulin management solution implemented into the EPR was regarded as highly usable based on the results of the HSUS in comparison to another study where the usability score was only 64%.[1] The variability between the pharmacy and nursing result warrants further investigation and will inform engagement requirements for future project work. Finally, this study adds to the evidence base in this important area where real-world data is still limited.

References and/or acknowledgements

1. Ghorayeb A, Darbyshire JL, Wronikowska MW, et al. Design and validation of a new Healthcare Systems Usability Scale (HSUS) for clinical decision support systems: a mixed-methods approach. BMJ Open 2023;13:e065323. doi:10.1136/ bmjopen-2022-065323

Where to start? The Irish Emergency Department Antimicrobial Discharge (EDAD) study: A multi-centre, prospective cohort analysis

Ms. Aisling Rafferty [1]

1. *CHI*

Aisling Rafferty[1,2,] Alida Fe Talento[3,4,5], Richard Drew[3,6,7], Patrick Fitzpatrick[8,9,] Kara Tedford[10,] Sabrina O'Regan[11,] Louise Delany[12,] Sile O'Connor[13,] Anna Marzec[14,] Donna Martin[15,] Clare Greene[16,] John Marriott[2,] Robert Cunney[3,7,4]

Objective: To determine the percentage of patients across Ireland that are discharged from the Emergency Department (ED) with an antimicrobial prescription, the indication, classification of infections, and guideline compliance. To identify potential areas for antimicrobial stewardship (AMS) interventions in the ED.
Design: A multi-centre, prospective cohort analysis study.
Setting: The Emergency Departments across 8 hospitals in Ireland.
Patients: At each site, patients one month and older who presented to the ED and were discharged directly from the ED were included.
Methods: A random selection of records of patients discharged from ED were reviewed until at least 30 records with an infection diagnosis resulting in an antibiotic prescription were obtained per hospital. The number of patient discharges with no antibiotic prescriptions were included to calculate the denominator. The indication, infection classification and guideline compliance data were collected on the 30 prescriptions in the participating hospitals.
Results: A total of 2619 patient records were reviewed. Of these, 249 (9.5%) patients were discharged with antimicrobial prescriptions from the ED. Most were classified as probable bacterial infection (158 (63%)), 21 (8%) as probable viral, and 18 (7%) had no documented evidence of infection. Three indications accounted for 73% of antimicrobial prescriptions: skin/soft tissue infection, ear, nose and throat infection, and urinary tract infection. Overall guideline compliance was 64%.
Conclusions: Several areas for AMS interventions to optimise antimicrobial prescribing in the ED were identified, including: targeted local and national guideline reviews, delayed prescribing, improved point of care testing and prescriber and patient education.
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Service Development

A pilot project to introduce red allergy wristbands at the National Rehabilitation Hospital (NRH)

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1. *National Rehabilitation Hospital,* ***2.*** *National Rehabiliation Hospital*

Introduction

Electronic Patient Records (EPR) were introduced at the NRH in late 2023. It was identified that the visible red allergy sticker on the front of the paper MPAR would no longer be present as a visual reminder of a patient's allergy status. As an additional patient safety measure we proposed the introduction of red allergy wristbands to be worn by patients to alert staff that the patient has a known allergy.

Aim

The aim of this project was to evaluate the introduction of red allergy wristbands initially on one unit at the NRH with a view to expanding the project hospital-wide.

Methods

A proposal was presented to the NRH Quality Safety Risk committee and agreement gained. A working group was formed including Pharmacy, the Director of Nursing and Nursing Practice Development. The start and finish dates for the pilot project were agreed (4/9/23-17/9/23). Education was provided to the interdisciplinary team (IDT) and patients by Pharmacy and Nursing. The project was audited on 2 occasions to assess compliance. On completion structured feedback was sought from IDT members and patients. Based on the results of this evaluation the project was approved by the NRH Quality Safety Risk Committee to roll out hospital-wide in December 2023.

Results

93% of IDT respondents (n=15) strongly agreed that they were familiar with and understood the education material provided. 80% of IDT respondents strongly agreed that the red allergy wristbands help improve patient safety. 100% of patients (n=2) said that the information regarding the project was adequately explained to them. 100% of patients were happy to wear the allergy wristband. 100% of patients agreed it was a good initiative to improve patient safety.

Conclusion

It is hoped that this initiative will help improve patient safety through providing care-givers with a visual prompt to check documented allergy status in the EPR. The project also provided a useful opportunity to engage with the patient on their understanding of their allergy status. Future optimisation of the project include having 1 wristband generated on admission which would include allergy status so the patient would need to wear only 1 wristband.

A review of anticholinergic burden in hospitalised older adults with cancer.

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1. *School of Pharmacy, University College Cork*

Introduction

Anticholinergic Burden (ACB) refers to the cumulative effect of medications that have anticholinergic properties. A range of tools can be used to calculate a patient's ACB score including online calculators. A medication will contribute a score of 0, 1, 2 or 3. Severe ACB refers to cumulative scores ≥3 and increases risk of falls, cognitive impairment and confusion. Appropriate use of ACB medicines and prescribing of alternatives can reduce this risk.

Aims

To assess the prevalence of severe ACB and measure the implementation level of pharmacist recommendations..

Methods

This was a prospective single-centre pilot service development in the hospitalised older adult (≥ 65) with cancer. A weekly multi-disciplinary team (MDT) meeting took place over 6 months with attendance of an oncologist, geriatric oncology fellow, geriatric oncology pharmacist and clinical pharmacist. ACB scores were calculated using the ACBCalc software and the CRIDECO Anticholinergic Loading Tool. Pharmacist recommendations to reduce scores were discussed and documented. At follow up (48 hours), ACB scores were re-calculated to assess implementation levels.

Results

Sixty patients participated of which 58.4% were male; the mean age was 74.3 years with a mean Clinical Frailty Score (CFS) of 4.3 and mean Charlson Comorbidity Index (CCI) of 9.3. All patients had advanced cancer (Stage III/IV). Reasons for admission were predominantly due to progression of disease (36%) and infection (35%). Prevalence of severe cumulative ACB (≥3) was 72% at baseline, 60% with pharmacist recommendations and 63% at follow up. Mean value of 12.8 medications were prescribed at initial review. Pharmacist recommendations were made in 28 patients with no implementation (no recommendations implemented) in 50% of patients, partial implementation (where one or more recommendations were implemented but not all) in 7% and full acceptance (all recommendations implemented) in 43%.

Conclusion

Severe ACB is prevalent in the older adult hospitalised with cancer with almost 3 in every 4 adults demonstrating scores greater than ≥3 at baseline. An admission to hospital contributes to polypharmacy and can increase scores. Further multi-site studies are needed to quantify the opportunity cost saved to the health sector through reducing ACB scores and subsequent risks of adverse events.

A Review of Pharmacist Led Medicines Reconciliation and the Impact on Medication Interventions

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1. *Department of Pharmacy, Children's Health Ireland at Temple Street*

Introduction

A new Medicines Reconciliation (MR) service was implemented by pharmacists across all the wards at Temple Street. MR is the process of obtaining an accurate and complete medicine information transfer at interfaces of care. The pharmacist obtains a mediation history, compares it to prescribed medicines and communicates any discrepancies.

Aims and Objectives

To assess the impact of medicines reconciliation on medication interventions made by ward pharmacist

Methods

Pharmacist collected data from 5 wards over 5-10 days. Pharmacists identified the number of new patients, how many had a MR completed, if not, what was the reason. The number of medications charted, the number and details of the medication interventions carried out and if they were MR related.

Results

- 108 new patients were seen by pharmacists over the data collection period
- A total of 322 medications charted
- 59% (N=43) had a medication reconciliation associated intervention
- 75% of Interventions made were medicines reconciliation associated
- 21% (N=69) of medications charted required a pharmacist intervention
- 27% (N=29) of patients did not have medicines reconciliation carried out.

The reasons for MR not being completed: Patient is transferred off the ward, in theatre, due for discharge, time restriction/staff shortage.

Discussion

75% of interventions made were medicines reconciliation associated. Pharmacist completed medicines reconciliation has a positive impact on reducing risk and increasing medication safety. The areas that were identified as having the greatest impact were: dosing, omitted medications, allergy status, formulations, medication optimisation, weight checks and the identification of adverse drug reactions. MR is recommended by HIQA for patient safety.

A year in review (2023): Targeted Clostridioides difficile infection antimicrobial stewardship ward rounds improved patient care at Beaumont Hospital, Dublin

Ms. Sadhbh Gash [1], ***Ms. Niamh Weir*** [1], ***Ms. Nuala Doyle*** [1], ***Dr. Sinead O'Donnell*** [2], ***Prof. Karina O'Connell*** [2], ***Dr. Helene McDermott*** [2], ***Prof. Binu Dinesh*** [2], ***Prof. Karen Burns*** [2], ***Dr. Zainab Baker*** [2], ***Ms. Jincy Thomas*** [2], ***Ms. Rincy Bijoy*** [2], ***Mr. Angelo Alparache*** [2], ***Ms. Aine Carey*** [2], ***Ms. Mary Kizhakedath*** [2], ***Prof. Fidelma Fitzpatrick*** [2], ***Dr. Ciara O'Connor*** [2]

1. *Dept of Pharmacy, Beaumont Hospital, Dublin,* ***2.*** *Dept of Clinical Microbiology, Beaumont Hospital, Dublin*

Introduction: In 2023, weekly multidisciplinary *Clostridioides difficile* infection (CDI) ward rounds commenced, involving the patient's clinical team, consultant clinical microbiologists, antimicrobial pharmacists and infection prevention and control nurses. CDI patients were prospectively identified from laboratory and pharmacy records. Following ward-based patient review, compliance with key prescribing indicators (KPIs) was documented in the patient record.

Aims & Methods: A retrospective review of CDI round KPI results for 2023 was completed; KPIs included (1) medication prescription and administration records (MPAR) allergy status documentation, (2) MPAR/medical chart documentation of antimicrobial indication, (3) compliance of choice, duration and route of antimicrobial agent(s) with local guidelines. Identification of potentially inappropriate antimicrobial prescribing prior to CDI diagnosis was also performed.

Results: Forty-three CDI rounds were conducted (n=97 patients); 97 CDI treatment prescriptions and 28 other antimicrobial prescriptions were reviewed. Seventy-six of 87 CDI patients had received previous antimicrobials with suboptimal prescribing identified in 26 (34%). Allergy status was documented for 98% (95/97) patients. Indication was documented for 97% (94/97) of CDI treatment prescriptions and 89% (25/28) of other antimicrobial prescriptions. The majority of CDI antimicrobials were compliant with local policy with regard to choice of agent (91%, 88/97) and treatment duration (92%, 89/97). Twenty-two of 28 (79%) concomitant antimicrobials were compliant with regard to agent choice and 19 (68%) were compliant with duration. Analysis of each KPI per quarter illustrated an improvement in most domains over twelve months. The number of CDI patients prescribed concurrent antimicrobials decreased from 33% (quarter 1) to 12% (quarter 4).

Conclusions: Ward-based multidisciplinary CDI rounds improved KPIs related to antimicrobial prescribing. Ongoing targeted prescriber education via the one-to-one engagement during multidisciplinary CDI ward rounds increases awareness of antimicrobial stewardship principles. Future work will include additional prescriber education campaigns and development of an information video for patients with CDI.

An Evaluation of Intravenous Drug Preparation and Administration Errors In an Acute Hospital Setting: A Mixed Methods Study.

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Introduction: In acute hospital settings, over 90% of inpatients receive intravenous (IV) medication, a practice prone to errors at a 20% higher rate than alternate administration routes.[1, 2] IV medication, despite its clinical benefits, poses risks due to the narrow therapeutic index of drugs, immediate bioavailability, and challenges in removing drugs from circulation.[1] This complexity necessitates an ongoing evolution of local policies, systems and practices to enhance safety and effectiveness.

Aims: To investigate errors in IV medication preparation and administration, exploring their prevalence, types, and severity, as well as potential medication process errors or system vulnerabilities.

Methods: The research employed a mixed methods approach. Point prevalence observations were conducted over a six-week period in April and May 2022 across twelve inpatient wards in General Medicine, General Surgery, and Accident & Emergency. A standardised data collection form was used. The severity of errors was assessed using the National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP) severity index.[3]An open-ended section on the data collection form allowed data collectors to note relevant information, such as staff comments. Thematic analysis was applied to interpret this data.

Results: In total, 447 errors were observed during the preparation and administration of 197 IV medicines, consisting of 133 (29.8%) preparation and 314 (70.2%) administration errors. At least one error occurred for 177 (90%) of observations with a mean of 2.5 errors per medication. No/incomplete additive label (n=58,13%) and no/incomplete second check (n=39,8.7%) were the most prevalent preparation errors. Incorrect time of administration (n=115,25.7%), failure to check patient allergies (n=79,17.7%), and incorrect rate of administration (n=55,12.3%) were the most prevalent administration errors. All errors were categorised as NCCMERP Category C. Data collectors' comments were documented for 117 (59%) of observed medications. Themes identified included guidelines, pumps, deliberate errors, documentation and knowledge & competence in relation to IV medication preparation and administration.

Conclusion: There is a need for a co-ordinated approach to identify and implement effective strategies for minimising IV medication errors and ensure the safe and effective use of these medications in the acute hospital setting.

An Evaluation Of Pharmacist-Delivered Medication Education In A Frailty At The Front Door Interdisciplinary Team

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1. *Cork University Hospital*

Introduction

Adverse drug events (ADEs) are a significant cause of emergency department (ED) visits, with a major impact on healthcare resource utilisation.

An interdisciplinary team (IDT) in-service day identified pharmacy-delivered education as a priority. Education suited to the diversity of the team is key.

Aims

This study aimed to evaluate pharmacist-delivered medication education to a Frailty at the Front Door (FFD) interdisciplinary team and assess the degree of importance the FFD team place on medication education

Methods

Pharmacist–delivered medication education was conveyed via i) daily board rounds, where issues arising in relation to medication are discussed, ii) the pharmacy prioritization toolkit and iii) the “medication minute”, where education topics pertinent to frail older people are presented in a micro learning style applicable for all members.

A mixed methods survey (open/closed questions) was distributed to the members of the FFD, which consisted of: Consultant Geriatrician, Registrar, Physiotherapists, Occupational therapists, Dietician, Speech and Language Therapist and Clinical Nurse Manager.

The questionnaire was anonymized and distributed digitally to FFD members via a cloud-based survey platform.

The survey posed questions on all three areas identified above, using a Likert scale ranging from not at all effective/relevant to extremely effective/relevant. These quantitative results were complemented with qualitative feedback from the open questions.

Results

- Eight (89%) FFD members completed the questionnaire.
- 37.5% (n = 3) respondents rated board round education as effective or extremely effective.
- 87% (n=7) respondents rated the “medication minutes” as extremely effective.
- 100% (n=8) respondents said medication education led to improved patient outcomes.
- 100% (n=8) of respondents said that understanding patient’s medication was either very or extremely relevant within their role on the team.

Conclusion

There is no published evaluation of medication education for IDTs.

This IDT agreed that medication education is both relevant and effective for all members, leading to improved patient outcomes.

The most effective method was the “medication minute”.

Work is needed to develop a National model of medication education for IDTs.

The outcomes of this study are limited by the small sample size of participants. This is unavoidable due to the niche nature of the research being conducted.

An Evaluation of the Impact of a Newly Established Clinical Pharmacy Admissions Service in Beaumont Hospital

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1. *Dept of Pharmacy, Beaumont Hospital, Dublin*

Authors: Sarah Madden, Eilis Kearney

Introduction – There is an awareness that due to multiple mitigating factors that there is a lack of clinical pharmacy cover in some areas of the hospital. It is recognised by HIQA and the WHHO that transitions of care are high risk for medication errors and therefore it was decided to assign resources to a dedicated clinical pharmacy admissions service.

Aims – To examine the impact of establishing a clinical pharmacy admissions team to improve patient care and reduce medication errors while also complying with relevant accreditation standards set by both HIQA and JCI.

Methods –

- The daily list of newly admitted patients to the organisation is reviewed with the locally developed prioritisation tool.
- Those admitted to a ward without clinical pharmacy cover meeting the criteria for prioritisation are highlighted for review.
- Daily statistics are collected on an ongoing basis

Results

In the initial two months the service clinically reviewed 146 patients on an average of 9.5 medicines taking an average of 38 minutes of pharmacist's time per patient. 146 patients represented 42% of patients who were eligible for review by the admissions service. In addition to medicines reconciliation and clinical review the service identified 5 near miss incidents which had the potential NCCMERP grading of E.

Conclusions: A dedicated clinical pharmacy admissions service can positively impact patient care at admission even when only available as 0.6 FTE. Development of the to ensure all eligible patients are offered a clinical review by a pharmacist is recommended.

APPEL Student Education training programme in a specialist Mental Health Pharmacy Service

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1. *Phoenix Pharmacy,* ***2.*** *hse,* ***3.*** *HSE*

The Phoenix Pharmacy Department (PPD) provides a range of Pharmacy Services to different approved centres located in HSE CHO9. These centres are a mix of acute and long term facilities for patients with mental health diagnoses and intellectual disabilities. The Department provides medication to off-site locations, Clinical Pharmacist attendance at Multidisciplinary Team Meetings (MDTs), audit service, medicines information service, policy review and the department provides education sessions to nursing and medical staff.
The PPD Student Education Programme offers students the opportunity to observe a specialist mental health pharmacy service. Students are supported in gaining insight into the range of services through completion of daily tasks in the department, undertaking a placement project and experiential learning through supervised visits to a variety of off-site areas including point of care haematology testing clozapine clinics, multidisciplinary meetings in the phoenix care centre and smoking cessation clinics.

Aims

1. To design a Student Education Programme for second and fourth year pharmacy students in a mental health services pharmacy department.
2. To facilitate student completion of relevant projects aligning with placement criteria and meeting the needs of the department.

Methods

1. Chief Pharmacist and preceptor meeting to discuss timetabling, staff availability and potential projects.
2. Weekly preceptor/student meetings, formative competency assessment & feedback.
3. Experiential visits to different clinical areas – scheduling with relevant staff.

Results

1. Successful completion of 12 student placements.
2. Achievement of competency in a range of dispensary tasks including;
    - Receipt of goods/FMD
    - Processing of invoices
    - Dispensing (weekly stock orders, requisitions and clozapine)
    - Near miss/error log completion
3. Successful completion of departmental projects including;
    - Implementation of KnowCheckAsk medication safety initiative
    - Creation of dispensary formulary document
    - Auditing
    - Introduction of Polypharmacy iSympathy review

Conclusions

A structured student education programme has offered students a comprehensive introduction to a specialist pharmacy service. Feedback from staff and students has been extremely positive and we have increased the number of student placements offered each year.

Children's Health Ireland Paediatric Formulary – a Digital Journey

Ms. Anne Fitzpatrick [1], ***Dr. Moninne Howlett*** [1], ***Mr. Michael Fitzpatrick*** [1]

1. *Children's Health Ireland*

Introduction: Medication use in paediatrics is complex. Ready access to accurate information is essential. Starting in 1996, Children's Health Ireland (CHI) at Crumlin (formerly Our Lady's Children's Hospital for Sick Children (OLCHC)) produced a paper formulary for use at the point of care. Digital solutions can improve efficiency and safety. In 2019, CHI was established bringing together the 3 existing paediatric hospitals in Dublin.
Aims: To develop a user-friendly, digital resource supporting safe prescribing and administration of medicines for CHI staff.
Methods: A multi-phase project began in 2011 with development of the OLCHC Paediatric formulary app. Subsequent quality improvement projects included: expanded content, introduction of ward tablets and addition of Clinical Guidelines. Collaboration with app developers was employed to improve functionality. New governance structures and rebranding were introduced to support expanded use within and beyond CHI.
Results: CHI Paediatric Formulary is now accessible across three platforms: web, mobile app, and off-line on ward tablets. 100% of OLCHC nurses surveyed in 2017 (n=74) considered ward tablets a positive change (100%), improved safety (97%) and saved time (98%).
Addition of an administration section to formulary monographs facilitated replacement of >70 paper IV monographs and smart-pump drug library tables. Addition of Clinical Guidelines to the same platform in 2019 facilitated hyperlinking to relevant monographs. A CHI formulary working group, SOPs and Memoranda of Understanding supported expanded use internally (CHI sites x4) and externally (paediatric network). In Feb 2024, the CHI Paediatric Formulary had >70,000 'reads', and >11,000 registered users from both within and outside CHI.
Conclusion: The CHI Formulary has evolved from a local, paper solution to a comprehensive digital resource accessible across multiple platforms. It is the primary reference source healthcare providers across the four current CHI sites and is used extensively across the wider paediatric network and in primary care.

Delivering Bacteriophage Therapy – A Collaborative Approach

Ms. Edel O'Dea [1]

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Authors
Keelan McManus, Siobhan Berry, Susan Clarke, Pradash Madhavan, Niall Mc Eniff, Concepta Merry, Edel O Dea, Nicholas Power, Derval Reidy, Martina Hennessy

Background:

Bacteriophage ('Phage') therapy is a promising anti-bacterial treatment which holds potential as a novel approach in treating multidrug resistant (MDR) infections. However, its integration and implementation in an acute hospital setting presents a unique set of challenges. This presentation examines such challenges offering insights into the complexities faced during the delivery of Phage therapy. It explores the critical role of the multi-disciplinary team (MDT) in ensuring the safe and effective treatment with Phage from procurement and quality control to storage, preparation and administration. It will discuss the regulatory landscape associated with this pioneering treatment modality, emphasising the necessity for standardised policies and procedures. In addition, this presentation highlights the importance of teamwork between healthcare professionals underscoring the pharmacist's role as a link between Phage supplier, clinicians, nursing staff, laboratory staff and regulatory bodies.

Aim and Objectives:

The objective was to develop and implement a comprehensive process for the procurement, handling, preparation and delivery of Phage therapy.

Methods:

A multidisciplinary team was assembled and regular meetings were scheduled. The MDT liaised with the Health Product Regulatory Agency (HPRA) to determine the legislative parameters for bringing bacteriophage therapy to our site. We engaged international experts to learn from their experiences and to ensure best practice would be followed throughout the entire process.

A review of the literature was carried out and a risk assessment was undertaken. A detailed procedure was developed for the ordering, receipt, storage, preparation and administration of bacteriophage. Other key stakeholders were identified and an extensive communication and training plan was implemented to ensure all relevant staff were adequately trained and roles and responsibilities were understood. This also involved the development of a patient information leaflet and a staff information leaflet.

Results

A procedure was developed and agreed which ensured the safe delivery of Phage therapy from procurement to administration to post treatment follow-up. This is an important step in establishing proof of concept and potentially making this treatment available to a wider patient cohort in the future. Phage therapy was delivered in St James's Hospital for the first time allowing a patient access to this personalised care over a 14-day treatment period comprising of 15 individual Phage products.

Conclusions and future work.

A collaboration between the Wellcome HRB Clinical Research Facility and St James's Hospital demonstrated that Phage therapy can be safely delivered at this institution. Further work is required to explore how this therapy can be made available to more patients. This would require a multi-disciplinary approach to scale up the service based on the existing model. Key aspects to explore for expansion of the service would include resources (such as cleanroom facilities and staff), establishing ongoing Phage procurement supply and patient selection criteria.

Acknowledgements

The authors acknowledge the advice and assistance provided by the Queen Astrid Military Hospital Belgium,

Josh Jones NHS Clinical Phage Specialist and University of California San Diego.

Dispensary Activity Data; Identifying Trends and Workforce Planning.

Mr. andrew blyth [1], ***Mrs. Annemarie Cahill*** [1], ***Ms. Deanna Roche*** [1], ***Mr. Martin McArdle*** [1], ***Mrs. Caroline Gallagher*** [1], ***Mr. Paul Tighe*** [1]

1. *St Vincent's University Hospital*

Introduction

St. Vincent's University Hospital (SVUH) Pharmacy Department moved to a 4th floor new build which includes robotics in May 2021. Following the settling in phase, the department wanted to identify activity levels for all aspects of dispensary activity and use this data to direct resources to appropriate areas.

Aims

Some dispensary activity had changed following the move when technicians started using Microsoft Pro tablets on wards to send picking tickets remotely to the robot, removing the need to re-enter the top- up list on the dispensary PCs. SVUH pharmacy wanted to ensure that all activities are value-adding.

Methods

A number of key activities were identified. Dispensary staff entered all relevant data on an Excel spreadsheet. Recorded data includes medications requisitioned by the Emergency Department, Acute Medical Unit and general wards; stock lists supplied to non-ward areas; all IV suite, MDA and TPN transactions.

Results

Activity levels demonstrated the busiest areas where the presence of an additional technician would have the most impact in reducing calls, requisitions and queries to the dispensary.

MDA transactions were recorded to identify wards which would benefit from an extension of the current limited MDA delivery service. This service reduces calls to the department by nurses and ward attendants.

TPN data provides information on stock rotation and re-use of returned bags.

Conclusion

It is true that it 'takes time to save time', taking the time to record dispensary activity helps direct resources allocation to areas where activity is increasing.

We hope to continue to develop and expand both the technician medicines management service and MDA service and continue to add value to our service.

Employing shared decision making (SDM) to reduce the anticholinergic burden (ACB)

Ms. Clare Kinahan [1]

1. *HSE*

Introduction

Shared decision making (SDM) is a joint process in which a healthcare professional works with a person to reach a decision about their care.[1] Medicines should be deprescribed, if a shared decision is reached that the risks outweigh the benefits for that individual.[1,2] Cumulative anticholinergic burden (ACB) and the physiological effects of ageing increase the risk of anticholinergic harm (urinary retention, tachycardia, constipation, confusion and falls).[3,4]

Aims

To reduce potential harm from anticholinergic medicines through deprescribing.

Methods

Software searches were performed by a general practice based pharmacist to identify patients ≥65 years of age with an ACB score of 4 or more. Patients were excluded if all anticholinergic medicines were prescribed by specialists.

Eligible patients were contacted by the practice pharmacist. Their age, number of regular medicines and ACB scores (calculated using https://www.acbcalc.com/) were recorded. Medicine benefits and risks along with potential prescription changes were discussed with the patient.

Recommendations for prescription changes were made to and enacted, as deemed appropriate, by the patients' GP.

Follow up occurred 4-8 weeks later. Regular medicines were recounted and ACB scores recalculated.

Results

Thirty eight patients met the inclusion criteria and received a medication review with the practice pharmacist.

Mean age: 75.7 (65-91)

Mean number of regular medications pre-review: 10.5 (2-19)

Mean number of regular medications post-review: 9.3 (2-18)

Mean ACB score pre-review: 5.4 (4-11)

Mean ACB post-review: 3.5 (0-10)

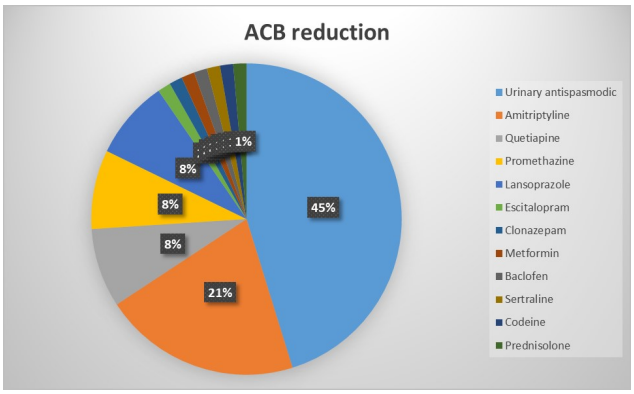
An anticholinergic medicine was discontinued for 65.8% (25/38) of patients.

A further 15.8% (6/38) had an anticholinergic medicine dose reduced.

90% of the total reduction was achieved by stopping urinary antispasmodics, amitriptyline, quetiapine, promethazine and lansoprazole (see figure 1)

Conclusion

ACB can be reduced through SDM and deprescribing of anticholinergic medicines. This intervention was undertaken in primary care, however hospital admission, particularly adverse drug reaction-related hospital admissions in older patients e.g. falls, present an opportunity for medication review, shared decision making and deprescribing of anticholinergic medicines.



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Enhancing the Transition of Care – Medicine Reconciliation at Discharge in the Louth County Hospital A Medication Safety Quality Initiative

Ms. Joanne Gaskin [1], ***Ms. Claire O'Dwyer*** [1]

1. *Louth County Hospital, Dundalk*

Introduction - Improving medication safety at transitions of care is an international healthcare priority. Medication reconciliation (MR) is defined as "the process of creating and maintaining the most accurate list possible of all medications a person is taking including drug name, dosage, frequency and route in order to identify any discrepancies and to ensure any changes are documented and communicated, thus resulting in a complete list of medications."[2] MR is a patient centred, medication safety activity of high value to patients, in particular older & medically complex patients. MR allows for the completion of further medication safety activities such as medication optimisation and review of polypharmacy. The Louth County Hospital is a subacute 62 inpatient bedded hospital with specialities including medical rehab, stroke rehab, palliative care services, and long term care transition beds. A small team of clinical pharmacists (1.8 WTE) introduced a new service to screen discharge prescriptions in February 2022.

Aim - complete MR on ALL discharge prescription for patients being discharged home and those transitioning to long-term care facilities.

Method - Data collection came from an observational, retrospective analysis of discharge prescriptions. Prescriptions were reconciled with the inpatient kardex with respect to the following standards;

- Clinical correctness
- Legal standards
- Medication Safety
- Medication Supply
- Provision of HSE reimbursement eligibility
- Complete and accurate documentation of medication information at transition of care as per HIQA standards[3].

Prescriptions were emailed to community pharmacy in advance of discharge, ensuring timely medication supply on discharge and minimising missed doses and errors.

Results - 404 patients were discharged from LCH between February 1st and December 31st 2022. An adjustment was made to exclude 123 patients who transferred sites, self-discharged or died. The remainder (281) were discharged either to their home or a long term facility. A clinical review and MR was completed for 276 patients (98%) over the timeframe.

References

1. WHO: Medication Safety in Transition of Care, Technical Report 2019
2. HIQA: Guide to Medication Safety Monitoring Programme, 2019
3. HIQA: National Standard for Patient Discharge Summary Information 2013

Established and emerging theatre pharmacy services: a scoping review

Ms. Aisling McGowan [1], ***Ms. Evelyn Deasy*** [1], ***Ms. Mary Coyle*** [1], ***Dr. Juliette O'Connell*** [2]

1. *Tallaght University Hospital,* ***2.*** *Trinity College Dublin*

Introduction: Pharmacy services impact patients throughout the perioperative journey. Pharmacist activities at surgical pre-assessment clinics and on inpatient wards are well-documented, but services to theatre appear comparatively under-developed. High-risk and high-cost medicines are used routinely in theatre; pharmacists are well-placed to optimise their use and improve patient care.

Aim: To determine the range, extent and nature of theatre pharmacy services and their outcomes.

Methods: This scoping review was conducted and reported as per the Joanna Briggs Institute methodology and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews. A search was conducted across electronic and grey literature databases to identify pharmacy theatre services. One reviewer screened titles and abstracts and carried out data extraction, with a 10% sample screened by a second reviewer. Two reviewers evaluated full texts. Included publications were critically appraised using the Mixed Methods Appraisal Tool.

Results: Ninety-two publications were included from 3924 search results. Fifty-seven were primary research articles. Most of the included publications described services in the United States of America; the remainder were from Australia, several European countries, Egypt, Morocco, Japan, China and Taiwan. Theatre pharmacy services included medication management and various clinical activities. Outcomes related to cost savings, patient safety and staff satisfaction. Nine of the 57 primary research articles were suitable for quality appraisal. Adherence to quality criteria ranged from 40-100%.

Conclusion: Evidence for theatre pharmacy services is extensive and varied. Empirical research of high methodological quality is required to assess the outcomes of these services.

Evaluating The Impact Of Changing to Dose Banded Carboplatin Stock Bags On Prescriber And Pharmacist Workload And Patient Flow On An Oncology Day Ward.

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1. *Pharmacy Department Our Lady of Lourdes Hospital , Drogheda*

Introduction

OLOL Hospital orders SACT from external compounders. Carboplatin doses are calculated the day before treatment and emailed to the compounder by 2pm. It was increasing difficult to meet the cut off time due to prescriber availability and other factors e.g. delays in blood results. This led to deliveries being delayed, last minute rescheduling of patients and extra courier charges. Patients on other treatments also had to be rescheduled to make room for those waiting on their carboplatin doses. A Lean project was planned to improve supply of carboplatin to our patients. In August 2023 the compounder changed their cut off time to 11am (extremely unworkable) making the lean project even more important.

Aims

- To commence stocking premade dose banded carboplatin bags.
- To improve our service to the patients.
- To lessen pressure on prescribers and pharmacists.
- To save money on extra courier charges.

Methods

- The prescribers were asked to prescribe all carboplatin dose banded. [1] [2]
- Compounders were contacted re the range of doses available and prices.
- Scripts of all patients on carboplatin were checked to ascertain their latest dose in order to decide which doses and how many of each should be kept in stock.
- Spares of the most common doses were also ordered.
- Implementation began at the end of June 23.

Results

For March, April and May 2023 81 emails had been sent to Baxter confirming Carboplatin of which 38 (46.9%) were sent after 2pm. Also of note 27% were sent between 1-2pm which is a particularly busy time in pharmacy and the ward as it crosses lunch times. In Nov, Dec 2023 and Jan 2024 14 emails were sent of which 7 were sent after the cut off time(11am) . Courier charges in a 3-month period decreased by over 80%.

Conclusions

Our Oncology Day ward patient flow is much less impacted by the last minute rescheduling of patients. Prescribers and pharmacists are under significantly less pressure to confirm and submit doses by the restrictive cut off time. A significant amount of money is being saved on extra courier charges.

Evaluating the impact of the implementation of a dedicated subcutaneous insulin prescription chart on the quality of insulin documentation on a pilot ward- a quality improvement project.

Ms. Eilis Kearney [1], ***Ms. Mairin Hayes*** [1], ***Mr. Martin Ferguson*** [1]

1. *Dept of Pharmacy, Beaumont Hospital, Dublin*

Authors: Máirín Hayes, Éilis Kearney, Martin Ferguson, Hannah Forde

Introduction – Insulin-related errors have been reported at all stages of medication use. The introduction of harm reduction strategies to target such errors has been promoted at both a global level- by the WHO, and at a local level by the IMSN. One such strategy is the introduction of a dedicated insulin monitoring, prescribing and administration record (iMPAR).

Aims – Using a pre/post audit approach, this quality improvement project aimed to assess whether the introduction of an iMPAR on a pilot ward would increase compliance with best practice standards in the areas of insulin prescribing, administration and BGL monitoring, and to identify iMPAR design strengths/weaknesses as perceived by clinical staff.

Methods: The intervention consisted of the implementation of an iMPAR for patients receiving subcutaneous insulin, on a single pilot ward over a six week period. At the time of this study a general paper based MPAR was used for all medications, and blood glucose monitoring documentation was recorded in a separate nursing point-of-care booklet.

The iMPAR was developed by a multidisciplinary working group. An Endocrinology Consultant provided ward based training to nursing and medical staff in the week prior to the pilot. A survey was circulated at the end of the pilot period for completion by eligible nursing and medical staff members.

Results: A total of 20 MPARs were reviewed in Phase 1 and 12 iMPARs were reviewed in Phase 2. Overall an increase in compliance with best practice standards was seen in relation to prescribing, administration and monitoring documentation with the use of the iMPAR. The user survey demonstrated that prescribers' views of the iMPAR were largely positive, while nursing staff identified a need for further training.

Conclusions: Introduction of a dedicated insulin MPAR improved compliance with best practice standards insulin documentation but further detailed analysis and increased engagement with nursing staff is needed.

Facilitating safer fluoroquinolone prescribing using formalised risk-assessment

Dr. Sandra Lauhoff [1], ***Dr. Marianne Fraher*** [1], ***Dr. Olive Murphy*** [1], ***Ms. Margaret Power*** [1]

1. *Bon Secours Hospital, Cork*

Introduction: A series of quality improvement and safety initiatives (QIIs) relating to fluoroquinolone use were implemented following:

- European Medicines Agency (EMA) fluoroquinolone warnings (2018 onwards).
- Observed adverse drug reactions (ADRs) attributed to fluoroquinolones (2022 – 2023).

Aims: Review indications / supply processes for fluoroquinolones, ensuring consistent risk / benefit evaluation prior to administration.
Methods: The impact on fluoroquinolone consumption was evaluated through monitoring of daily doses/100 bed days (DBD) from 2018-2023.
Q1 2019 – QII 1:

- Alternatives to fluoroquinolones recommended in guidelines.
- Where no alternative identified, fluoroquinolone warning incorporated into guidelines.
- Fluoroquinolone alert circulated to clinical staff.
- Patient information leaflet (PIL) prepared for patients treated with fluoroquinolones.

Q4 2022 – QII 2:
Patient developed fluoroquinolone related ADR (tendon rupture), but was unaware of the association with ciprofloxacin; unclear if patient understood the risk, and documentation of education was lacking.
Following this,

- Formalised risk assessment, with documentation of education, developed to identify / counsel patients.
- Extensive staff education, with promotion of risk-assessment / PIL.

Q1 2023 – QII 3:
Second ADR identified - QT interval prolongation in patient on ciprofloxacin, cin combination with another QT-prolonging agent. Fluoroquinolone discontinued and alternative prescribed.
Changes regarding fluoroquinolone availability implemented:

- Fluoroquinolones added to high-risk and restricted antimicrobial lists, ward stocks minimised.
- Risk-assessment, including potential interactions, mandated prior to fluoroquinolone dispensing.
- Further reduction in fluoroquinolone recommendations in empiric guidelines.
- Prescribers notified of changes, and current safety information.
- Nursing staff educated regarding fluoroquinolone risks and availability changes.

Results: Safer prescribing of fluoroquinolones, as reflected in a sustained reduction in fluoroquinolone consumption (Figure 1) was achieved through implementation of a series of QIIs, including a mandatory risk assessment.

Conclusion: Sequential QIIs, including mandatory, formalised risk assessment and structured patient education, are effective strategies to facilitate safe fluoroquinolone prescribing, while ensuring availability for the appropriate treatment of low-risk patients.

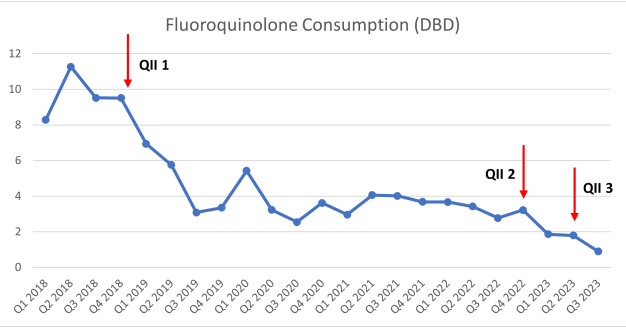


Figure 1 fluoroquinolone consumption dbd 2018 - 2023.png

Impact of a pre-assessment clinic on activity in the Pharmacy Aseptic Compounding Unit

Ms. olivia flynn [1]

1. *University Hospital Limerick*

Introduction

In 2014 the NCCP (National Cancer Control Programme) published the Oncology Medication Safety Review Report. Recommendation number 14 was to consider a 2 day treatment model, whereby patient's clinical assessment and blood tests are conducted on the day prior to treatment, with the objective of improving patient flow and decreasing waiting times for patients. Ultimately it was anticipated that this could also increase capacity on the haematology-Oncology day ward.

At University Hospital Limerick a 2 day pre-assessment clinic model was introduced in July 2021.

Aims

To assess the impact of the pre-assessment model on activity in the Aseptic Compounding Unit (ACU)

To quantify the volume of SACT available on the day ward in advance of the patients appointment time

Method

Review of the electronic diary and analysis of workflow patterns for January 2024.

The electronic diary records patients' appointment time, 'go ahead' from pre-assessment clinic, which treatments have been compounded in advance, total number of doses compounded per day and number of doses of out-sourced systemic anti-cancer treatment (SACT).

Results

39% of SACT compounded on site is made and released the day prior to treatment (combination of advance treatments routinely made and released, and 9am patients with 'go ahead' from pre-assessment).

24% treatment made and sent to the day ward by 12:00 (from pre-assessment 'go aheads')

18% of treatments are made on confirmation and this includes a number of in- patients each day.

All out-sourced SACT is sent to the day ward the day prior to treatment

Conclusion

Implementation of a pre-assessment model at UHL has had a significant impact on the workflow in the ACU. It has allowed workflow to be streamlined and spread evenly throughout the day, avoiding peaks and troughs in activity, with a resultant reduction in waiting times for patients on the day ward.

Implementation of the Safe Prescribing and Administration of Intramuscular Methotrexate for the Medical Management of Ectopic Pregnancy at Cork University Maternity Hospital (CUMH).

Ms. Alana Dineen [1], ***Mrs. Joan Ryan*** [1], ***Ms. Emma Flaherty*** [2], ***Ms. Elmarie Cottrell*** [1], ***Ms. Deirdre Lynch*** [3], ***Dr. Deirdre Hayes Ryan*** [4]

1. *Pharmacy Department,Cork University Hospital,* ***2.*** *Pharmacy Department, University Hospital Kerry,* ***3.*** *Pharmacy Department, Cork University Hospital,* ***4.*** *Cork University Maternity Hospital, Cork*

Introduction: Methotrexate for medical management of ectopic pregnancy is administered by a single intramuscular (IM) dose of 50 mg/m^2. To mitigate risks with cytotoxics' handling and accurately calculating doses using Body Surface Area (BSA), a guideline was developed in conjunction with University Hospital Kerry[1].

Aim: To ensure patients who require IM methotrexate for the management of ectopic pregnancy receive an accurately calculated dose, that methotrexate is safely handled and administered, and the patient receives appropriate information.

Method:

Previously, CUH Aseptic Compounding Unit (ACU) prepared individualised methotrexate doses with doses required out-of-hours prepared by often junior medical staff. To minimise handling risks out-of-hours and to reduce turn-around time from prescription to receipt on ward, methotrexate prefilled syringes (PFS) were sourced in a range of strengths. Dose banding was introduced with education provided by clinical pharmacists. To support prescribing on the electronic health record (EHR), a Worksheet was devised to assist prescribers in verifying calculated and banded doses. Worksheets must be checked and signed by a second staff member. Patient Information Leaflets (PILs) were developed.

Results:

From March 2023 to January 2024, 26 patients received IM methotrexate during working hours, with the clinical pharmacists contacted in all cases. Issues identified included inaccurate body surface areas and incorrect banded doses. Three treatments prescribed out-of-hours. One out-of-hours dose was found to be incorrectly calculated on pharmacist checking. Additional education sessions were delivered.

38.4% (n =10) of prescriptions were prescribed by an SHO, 30.7% (n= 9) by a Registrar, 26.9% (n=7) by a SpR, 3.8% (n=1) by a Consultant. Average calculated dose was 88.5 mg. Average banded dose was 90 mg. Syringes used were 40mg (33.3%, n= 15), 45 mg (28.8%, n=13), 35 mg (20%, n=9) and 50 mg (17.7%, n=8).

Average turnaround time from receipt of prescription to PFS arriving on ward was 18 minutes, greatly reduced from previously when manufactured in the ACU.

PILs were given to each patient by the midwife with positive feedback on their content.

Conclusion:

Pharmacist-led medication safety has been built in to the safe prescription and administration of IM methotrexate to minimise risk for patients and staff.

Mental Health Services: Prescribing for Compliance (Regulation 23) – Developing a novel HSEland e-learning package

Ms. Helen Danaher [1], ***Ms. Louise Fitzsimons*** [1]

1. *Phoenix Pharmacy*

Introduction

The Judgement Support Framework (JSF) is a guidance document provided by the Mental Health Commission (MHC) to assist approved centres to comply with the Mental Health Act 2001. Regulation 23 of the JSF governs the ordering, prescribing, storing and administration of medicines.

Within CHO9, MHC inspection findings showed repeated non-compliance with regulation 23. Pharmacy education was identified as part of the Corrective and Preventative Actions (CAPA), post inspection. Staff in the Phoenix Pharmacy department developed education sessions on safe prescribing and specifically how to achieve compliance with regulation 23. This education was delivered at NCHD induction days and pharmacy led audits showed improvements in prescribing after the education sessions. However, a limitation identified, is failure to deliver these sessions consistently to all relevant prescribers due to the number of locations within the CHO.

Aims

- To develop online education, to ensure all prescribers have access to and complete training on safe and compliant prescribing.

Methods

The HSEland platform is an existing resource available to all HSE staff. Pharmacy staff worked with developers to transform the existing face to face sessions into an eLearning training package: Mental Health Services: Prescribing for Compliance (Regulation 23). A mandatory quiz was designed with a pass mark of 80% to achieve certification.

Results

The new eLearning package is available on HSEland and is part of the mandatory training requirements for all new prescribers working in CHO9, recognising the importance of compliance with the MHC's JSF regulation 23. Nursing interns on placement in the approved centres also complete the e-learning package.

Conclusions

Hosting the training on HSEland ensures all relevant staff have access and allows timely completion by staff as they begin working in CHO9. The focus of this training is to ensure the prescribing part of Reg 23 is complied with. The development of this type of targeted training can be replicated, utilising an existing platform familiar to HSE staff.

Pharmacist attendance at Morning Medical Handover Meeting to improve Medication Safety for patients admitted to a HSE Acute Level 3 Hospital.

Mr. Stephen Dennehy [1], ***Ms. Audrey O'Reilly*** [1], ***Ms. Ciara Cronin*** [1]

1. *Pharmacy Department, Tipperary University Hospital*

Introduction:
Medication reconciliation at transitions of care is recognised as an important intervention in preventing medication errors which pose serious risks to patient safety. Increased activity levels, coupled with staffing deficits across all disciplines, means that a comprehensive medication reconciliation cannot be performed for all patients admitted to and discharged from our institution. Older persons were prioritised due to the potential for polypharmacy. This cohort now accounts for over 60% of admissions, necessitating further refinement of the prioritisation tool for medication reconciliation by Pharmacy.

Aim:
To prioritise newly admitted patients who would benefit most from a medication reconciliation.

Method:
One pharmacist attends the morning medical handover meeting to prioritise patients most in need of a medication reconciliation on admission. This is facilitated by requests from medical teams and/or the discussion of medical history, presenting complaint and treatment with high-risk medications, where known, for new admissions.

A record of all medication reconciliations undertaken is recorded outlining how the need for a medication reconciliation was identified and how many discrepancies were noted.

Results:
Between June 2023 and January 2024, a total of 474 medication reconciliations were completed. 159 patients were identified by the pharmacist attending medical handover and 84 requested by the medical teams. This accounted for 51.3% of all medication reconciliations undertaken, 84% of which were within 24 hours of admission. An average of 3.97 discrepancies were identified per reconciliation from those identified at the handover meeting. Requests for medication reconciliations by the medical teams rose from 3 in June 2023 to 16 in January 2024.

Conclusion:
In the absence of a regular ward based or team-based pharmacist, pharmacist attendance at the medical handover meeting has resulted in faster identification of high-risk patients in need of medication reconciliation. It has also resulted in increased awareness of the role of clinical pharmacists amongst medical teams.

Pharmacist led polypharmacy review in an Intellectual Disability Service – application of iSympathy achieving better outcomes for residents.

Ms. Helen Danaher [1], ***Ms. Carol Mahon*** [2], ***Ms. Louise Taylor*** [2]

1. *Phoenix Pharmacy,* ***2.*** *HSE*

Introduction

St. Joseph's Intellectual Disability Service (SJIDS) in Portrane, is an approved centre providing a service for adults who have an intellectual disability and mental health diagnosis. The residents in SJIDS are under the care of a consultant psychiatrist and a GP.

Currently a Clinical Pharmacist attends the 6-monthly Integrated Care Plan (ICP) meetings. The ICP is a multidisciplinary meeting to facilitate the sharing of information between team members to establish a comprehensive treatment plan to meet the clinical, psychological and social needs of the resident.

iSympathy was a European project funded to deliver holistic person-centred medicines reviews. The multiple benefits demonstrated by iSIMPATHY service evaluation has resulted in a commitment in the HSE National Service Plan 2023 to "roll out a programme to improve medication reconciliation / safety in the community".

Our pharmacists applied the iSympathy tool to the medications prescribed to the residents in SJIDS.

Aims

Apply to iSympathy tool to the medication prescribed, focusing on polypharmacy.

Liaise with prescribers to make appropriate changes to resident's medication.

Methods

A resident profile was created, looking at their medication and blood results.

3 of the iSympathy tool questions were applied:

- Does the patient take unnecessary drug therapy?
- Are therapeutic objectives being achieved?
- Does the patient have ADR/Side effects or are they at risk of ADRs/Side effects?

The pharmacist contacted the relevant prescriber to make their recommendations based on the iSympathy review.

Results

37 service users reviewed.

Total number of medications =511

Total number of medication post review = 476

7% reduction

Cost saving €166.88 per month.

Conclusions

The benefits of this review include safe, effective medication for residents and cost savings for the service. We anticipate further cost saving and reductions in prescribed medicines, however discontinuation of any long term medication needs to be de-prescribed slowly.

This tool has potential to be rolled out across the broader SJIDS service and the phoenix pharmacy department has capacity to commit to provision of this service. This quality improvement ensures a scheduled medication review using a validated tool is completed for all residents.

Planning the Implementation of a New Oncology Compounding Information System in an Aseptic Compounding Unit: A Mixed Methods Study.

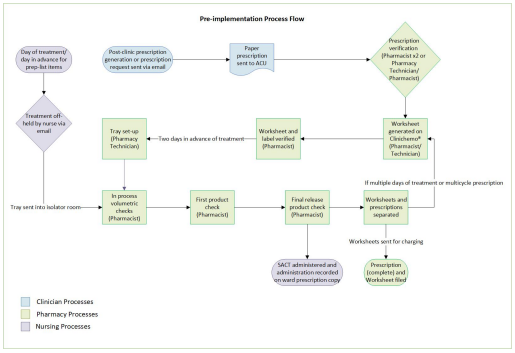
Ms. Mahreen Khosa [1], ***Ms. Fionnuala Kennedy*** [1], ***Ms. Alison McPhillips*** [1], ***Dr. Carlos Medina*** [2]

1. *Mater Private Network Dublin,* ***2.*** *School of Pharmacy and Pharmaceutical Sciences, University of Dublin, Trinity College, Dublin, Ireland*

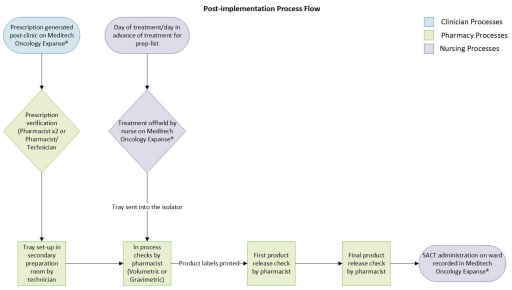
Introduction: Systemic anti-cancer therapy (SACT) compounding is a high-risk process. Traditional mixed method systems for workflow management in aseptic compounding units (ACUs) are prone to risk. Workflow management systems (WFMSs) are recognised internationally to improve safety, reduce costs, and increase ACU capacity. Planning of the implementation of a WFMS has not been characterised before.
Aim: To demonstrate how the implementation of a new WFMS can be safely planned, managed, and assessed. This aim was achieved using the following objectives:

1. Describe and risk assess the current workflows for SACT compounding.
2. Investigate agreed and published standards for SACT compounding.
3. Define the change management process.
4. Describe and evaluate the benefits, challenges and risks associated with the introduction of a new SACT compounding system.
5. Interview adopters of NCIS/BD-CATO® to assess their experience of the barriers encountered, how challenges were overcome, risks identified, mitigated, and eliminated through the change management process and ongoing.

Methods: The current workflow for SACT compounding was characterised and risk assessed. Semi-structured interviews were carried out to evaluate pharmacist and pharmacy technicians' attitudes and opinions towards the implementation of BD-CATO® in their organisations. The interviews, a review of guidelines, published standards and the literature were used to guide and risk assess future process development.
Results: Nine participants (8 pharmacists and 1 pharmacy technician) across seven ACUs were interviewed in June-August 2023. Thematic analysis of interview data yielded four key themes. 1. The importance of planning activities such as communication, phased implementation, and development of training material. 2. The importance of a designated individual tasked with change implementation. 3. The benefits and risks associated with BD-CATO®. 4. Lastly, reasons for perceived complexity of the system. Interview data and review of guidelines published standards and the literature were used to devise future process workflow and the change management plan.
Conclusions: The introduction of WFMS has been interpreted both in the literature and within the Irish healthcare setting to; increase efficiencies, reduce error rates, and improve the accuracy of SACT compounding. A formal change management strategy devised with resourcing, training, and obtaining stakeholder engagement is key to successful implementation.



Pre-implementation process flow.jpg



Post-implementation process flow.jpg

Preparation for the Digital Transformation of Medication Management in Ireland's New National Children's Hospital

Dr. Moninne Howlett [1], ***Mr. Michael Fitzpatrick*** [1]

1. *Children's Health Ireland*

Introduction: Ireland's new children's hospital will be the first publicly-funded Irish hospital to be 'born digital'. Implementation of closed-loop medication management, utilising an electronic health record (EHR), automated dispensing cabinets (ADCs), dispensary robot, the hospital medication management system (HMMS) and smart-infusion pumps is planned.

Aims: To support the merging of existing CHI hospitals and optimise medication-related benefits, the CHI pharmacy department set out to support procurement processes, identify opportunities for standardisation and early implementation, and devise suitable studies to support ongoing evaluation of the digital transformation of pharmacy services and medication management in CHI.

Methods: Early engagement to ensure appropriate pharmacy input during all stages of EHR and other medication-related procurements. Business cases were developed to support early adoption of ADCs to front-load the planned changes. Standardisation of prescribing and administration guidelines, smart-pump drug libraries and medication inventories were prioritised; opportunities to learn from more digitally mature paediatric hospitals were investigated; suitable baseline metrics were identified.

Results: Two pharmacists - Head of Pharmacy and Chief Pharmacy Information Officer (CPIO) - were members of the CHI EHR procurement evaluation group. ADC implementation into the Emergency/Urgent Care Departments (n=4) of existing hospitals is complete. Expansion of a single-site paediatric formulary and the CHI smart-pump drug library to all four sites was undertaken between 2019-2021; a single medication inventory was developed to support EHR and HMMS build. On-site learning in St.Jude's Children's Research Hospital, a leading US paediatric institution was facilitated by a Fulbright Tech-Impact scholarship awarded to CHI's CPIO. Post-implementation studies of ADCs in 2 CHI EDs identified reductions in numbers of items dispensed, overall medication costs, ED pharmacy technician time and 'out of hours' requisitions. Further baseline metrics and research resources have been identified.

Conclusion: Pharmacy departments can prepare for a 'big-bang' medication management transformation through careful planning, collaboration and innovation.

Title - Implementation of a DOAC Counselling checklist for Postoperative Venous Thromboembolism (VTE) Prophylaxis for Gynaecologic Oncology Patients post Major Abdominal Surgery at Cork University Maternity Hospital (CUMH).

Ms. Alana Dineen [1], ***Mrs. Joan Ryan*** [2], ***Ms. Maria Mulrooney*** [2], ***Ms. Deirdre Lynch*** [1], ***Dr. Virginia Silvari*** [3], ***Dr. Zibi Marchocki*** [4], ***Dr. Maeve Crowley*** [3]

1. *Pharmacy Department, Cork University Hospital,* ***2.*** *Pharmacy Department,Cork University Hospital,* ***3.*** *Cork University Hospital,* ***4.*** *Cork University Maternity Hospital, Cork*

Introduction –
Direct Oral Anticoagulants (DOACs) are high-alert medications. Developing and implementing medication safety initiatives for DOAC use supports patient safety. Clear communication using appropriate education tools, such as a DOAC Counselling Checklist, can facilitate patients' knowledge of DOACs and minimise the risk of harm. It can help to identify and reduce gaps in counselling or in understanding by the patient.
Aim –
To ensure all gynaecologic oncology patients post abdominal surgery and prescribed a DOAC for VTE prophylaxis post-discharge, are readily identified and receive counselling by a clinical pharmacist on DOAC safe use.
Methods –
A DOAC Counselling Checklist was developed and implemented in October 2023. The Checklist contains all relevant counselling points to be discussed with the patient. As the DOAC prescription for these patients is for post-discharge only, the Checklist was also designed as a pre-configured clinical note on the electronic healthcare record (EHR) to ensure early completion by the medical team. Printed patient information letters were developed as an additional safety tool to ensure safe discharge to the community.
Results –
Data was collected for three months post-implementation. Clinical pharmacists provided DOAC counselling to 100% (n=29) of the patients prescribed a DOAC on discharge. The average DOAC counselling time was 15 minutes with most counselling occurring on Day 3 post-operatively. All patients received a printed letter with individualised information before discharge.
All 29 patients had an early completed clinical note identifying the patient meeting the criteria for DOAC post-discharge. 75.8% (n=22) of clinical notes were completed by a Consultant, 20.6% (n= 6) by a Registrar, and 3.4% (n= 1) by an SHO.
Conclusion – Implementing the DOAC Counselling Checklist has enabled the CUMH pharmacy team to deliver DOAC education for this cohort of patients in a timely and comprehensive manner. Pharmacist-led medication safety initiatives for high-alert medications contribute to their safe use and advance patient safety.

Innovation

Demystifying Hospital Pharmacy - Attracting New Talent to the Profession

Ms. Marie Richardson [1], ***Ms. Elaine Conyard*** [1], ***Ms. Jennifer Boyle*** [1], ***Mr. Mark Knipe*** [1]

1. *Our Lady of Lourdes Hospital Drogheda*

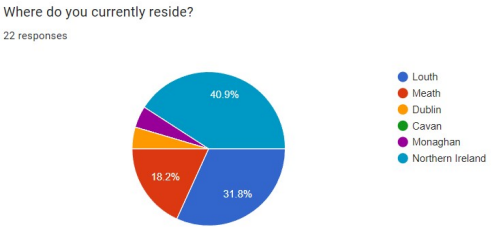
Introduction:
A shortage of available hospital pharmacists (IMSN 2022) has created difficulty in attracting candidates to apply for roles, leaving many positions unfilled. A higher cost of living in the greater Dublin area has made opportunities outside the region more attractive. High wages within the community sector is another challenge. Despite the majority of pharmacists working in the community sector (PSI 2024), they feel they don't understand the role of hospital pharmacists and do not explore the aforementioned opportunities.

Aims:

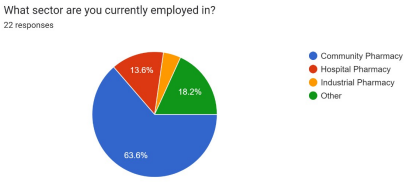
- Attract pharmacists to an open evening, to showcase career prospects in hospital pharmacy
- Increase the number of applicants for senior and staff grade pharmacist roles in Louth Hospitals
- Form recruitment panels for senior and staff grade hospital pharmacist roles

Methods:
Established a working group, consisting of 3 former community pharmacists who have moved to hospital pharmacy in the past 6 years. The group and its work was overseen by the Executive Manager.
Plans were prepared to host 4 open evenings in September, each on a different weekday to facilitate pharmacists attending after work. The group organised the logistics and promotion with the Executive Manager and OLOL hospital management. Refreshments and parking were organised for attendees.
The Executive Manager worked closely with HR to have senior and staff grade roles open for application at the time of the events. Pre-registration was via an online document.

Results:
24 people registered interest in attending. 22 were PSI-registered pharmacists (or eligible for same). 100% of registrants attended. Experience of attendees ranged from 1 year to 28 years. 40.9% solely had community pharmacy experience. All other candidates had previous experience in community pharmacy and at least one other setting, e.g. hospital, industry, GP practice, vaccination clinics, regulatory roles, primary practice. Of the 22, 68% applied for a position and were called for interview, and 50% attended interviews. A panel was created.
Conclusion:
The events spiked interest in hospital pharmacist job opportunities, giving insight into the role, career progression and postgraduate education. They were informal, with pharmacists available to answer questions, give a tour of the hospital and showcase the research undertaken by the pharmacy department.



Background.jpg



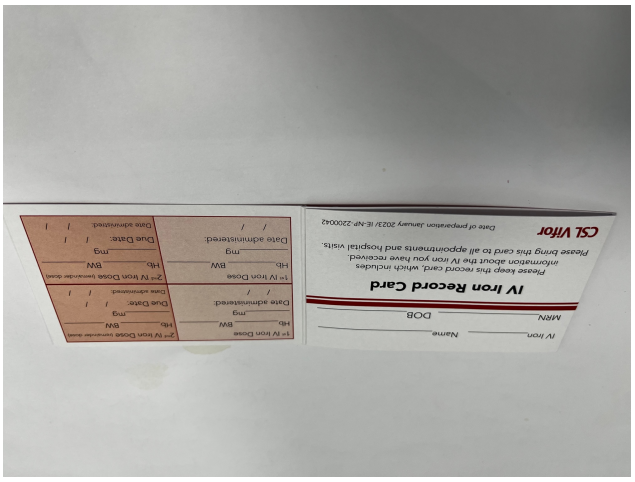
Sector.jpg

Development of an IV iron patient record card for patients with heart failure

Ms. Susan Brosnan [1], ***Mr. Paul Tighe*** [1], ***Ms. Kellie Kearney*** [1]

1. *St Vincent's University Hospital*

Introduction:
Iron deficiency anaemia is common in patients with heart failure. This patient cohort requires more frequent monitoring of iron stores, and may require repeat infusions of IV iron. RCTs have shown IV ferric carboxymaltose is safe and improves symptoms, exercise capacity and quality of life in patients with heart failure and iron deficiency.
Aim:
To improve treatment of iron deficiency anaemia amongst HF patients in SVUH by developing an IV iron patient record card. Design a record card which would be suitable for patients to carry with them to all hospital visits and doctor appointments and include relevant information on treatment.
Results:
The cardiology pharmacist, in conjunction with heart failure nurses & CSF Vifor, developed an IV iron record card for patients.
Conclusion:
An IV iron patient record card was developed and is in routine use in the hospital.
On administration of a dose of IV iron, the card is filled out by the healthcare professional and given to the patient to bring to future hospital and doctor appointments. This is helping to ensure the prompt completion of dosing and provide a clear record of when the last dose of IV iron was received.



Iv iron card.jpg

Gentamicin dosing initiative: A quality improvement initiative to optimise the dosing of gentamicin in Transurethral Resection of the Prostate (TURP) procedures.

Ms. Claire Devine [1], ***Dr. Katie Giblin*** [2]

1. *Bon Secours Hospital Dublin,* ***2.*** *Bon Secours Hospital Dublin/ Beaumont Hospital Dublin*

Introduction:
Transurethral Resection of the Prostate (TURP) is a commonly performed procedure for the treatment of Benign Prostatic Hyperplasia. Post-operative infection is a recognised complication. To mitigate this risk, Gentamicin is used as Surgical Antibiotic Prophylaxis (SAP). Gentamicin is dosed based on patient weight and renal function. Due to the necessity of patient-specific dosing, Gentamicin is commonly prescribed at the incorrect dose.

Aim:
We aimed to establish local levels of compliance with Gentamicin dosing in TURP procedures performed in the Bon Secours Hospital Dublin through the use of audit. Furthermore, we attempted to improve compliance levels through the use of the Plan – Do – Study – Act (PDSA) Quality Improvement (QI) methodology.

Methods:
A retrospective audit of SAP prescribing was conducted according to local antimicrobial guidelines. All TURP procedures undertaken in 2022 were included. A QI initiative was then devised and launched in a multi-disciplinary fashion. This involved collaboration from pharmacy, surgery and anaesthetic departments. A 'prescribing-nudge' in the form of a 'Gentamicin dosing sticker' containing a QR code, was affixed to patient anaesthetic records to facilitate streamlined dosing. Prospective audit was then conducted. Snapshot audits of sustainability are ongoing.

Results:
Initial audit included 63 patients who underwent TURP. Of these 63, only 7.9% (5/63) received a correct dose of Gentamicin. Post-intervention, compliance with Gentamicin dosing increased to 61% (14/23). Anaesthetic records which had a fully completed sticker received a correct dose of Gentamicin in 100% of cases (14/14). However, 9 records had omitted or incomplete stickers. Of these 9 cases, 100% received an incorrect dose (9/9). Sustainability audit currently shows compliance of 75% (12/16).

Discussion:
When used correctly, this prescribing nudge resulted in complete compliance with Gentamicin dosing in TURP procedures. This simple and cost-effective QI initiative has, thus far, resulted in positive and sustainable change. Further analysis of the patient admission process is necessary to increase the number of 'Gentamicin dosing' nudges completed correctly.

Go-live Implementation of an Electronic Prescribing and Medicines Administration (ePMA) system in a Tertiary referral Rehabilitation Hospital

Ms. Sarah Molony [1], ***Ms. Mairéad Murrihy*** [1], ***Mr. Tim Mesmer*** [1], ***Ms. Sheena Cheyne*** [1], ***Ms. Catherine Boyle*** [2]

1. *National Rehabiliation Hospital,* ***2.*** *National Rehabiliation Hospital (formerly)*

Introduction:
An ePMA system (TrakCare®) was introduced in the National Rehabilitation Hospital (NRH) (120 beds), as part of a wider Electronic Patient Record (EPR) roll out in Quarter 4, 2023. ePrescribing is seen as a key enabler in reducing medication errors in the in-patient setting[1]. Adequate preparation, careful risk management and learning from pilot deployments are identified as measures to enable a safe Go-Live process[2].

Aims / Objectives:
To ensure a safe and successful Go-Live implementation of ePMA.

Methods:
Key steps:
Training

- Classroom based training sessions for nurses, doctors, pharmacists, pharmacy technicians and dieticians
- Super user training: all pharmacists and pharmacy technicians, representative cohort of nurses and Non Consultant Hospital Doctors, EPR project team members
- > 60 Quick Reference Guides developed

Pilot and Staggered Roll Out

- 5th October 2023, a pilot Go–Live was commenced (14 bed unit). This unit was chosen due the complexity and medication burden per patient
- All issues/feedback during the pilot phase were logged and actioned
- All other adult in-patient units (n=9) went live in a staged roll out (14th–28th November 2023)

Electronic Prescription Generation

- ePMA pharmacists backloaded the patients' prescriptions into a 'plan' the day prior to Go-Live (not a prescription)
- Each plan was cross checked by a second pharmacist
- Go-Live day: After the morning medication round (paper), the doctor prescribed from the 'plan'. A pharmacist and a doctor then cross checked the paper and electronic prescriptions

Unit Support

- At the elbow support for nurses, doctors and pharmacists
- ePMA team were based on the Go-Live unit

Results:

- 97.5% medics (n=39), 100% pharmacy team (n=12), 100% (n=183) nursing staff trained prior to Go-live on each unit

- 4 issues were identified during pilot which required vendor product changes
- During the Go-Live, there was 1 reported medication error which reached the patient (no-harm) and 4 near-misses
- Positive staff feedback during the implementation phase

Conclusion:
A staggered approach to ePMA Go-Live (including a pilot unit), backloading of prescriptions by ePMA pharmacists and supporting nursing medicines administration rounds all ensured a low rate of incidents at the point of transitioning to ePMA from a paper based system and positive staff engagement.

Implementation of an Electronic Prescribing and Medicines Administration (ePMA) system for adult inpatients in a Tertiary referral Rehabilitation Hospital.

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1. *National Rehabiliation Hospital,* ***2.*** *National Rehabiliation Hospital (formerly)*

Introduction

An ePMA system (TrakCare®) was introduced in the National Rehabilitation Hospital (NRH) (120 beds), as part of a wider Electronic Patient Record (Project Fusion) roll out in Quarter 4 2023.

Method

The high level steps in this process included:

1. Configuration of a United Kingdom Drug File to ensure suitability and applicability for safe use in an Irish setting:
    - 100,000 parameters were reviewed, >10,000 changes made
    - Medications specific to the Irish market were built locally
2. Workflow co-design (Interdisciplinary stakeholder workshops and process mapping) and product modifications/development to ensure optimisation of key workflows such as:
    - medicines reconciliation on admission/discharge
    - prescribing/administration of high-risk medications
    - therapeutic leave
3. Design and development of a discharge prescription/summary adhering to legislation and HIQA guidance
4. Testing
5. Training:
    - 244 staff trained through classroom based in person training sessions
    - >60 Quick Reference Guides developed
6. Establishment of a Clinical Governance Group (chaired by the Clinical Director) to ensure clinical oversight and approval of required clinical decisions
7. Ongoing stakeholder engagement and communication

Results

A practical ePMA solution was implemented in < 18 months and is live on all 9 adult in-patient units with over 250 active users as of January 2024. Early indicators have been favourable in terms of the system's contribution to safety and optimisations of medicines use in the hospital. The length of time required to ensure the drug file was suitable for use in the Irish market was significant and unanticipated. Further optimisations are required but many key safety features have been incorporated and processes streamlined, releasing time to care. Overall feedback from end users is positive.

Conclusion

The rollout of a UK based system brings additional workload where the drug file and prescription outputs need significant adaptation. ePMA rollout is an opportunity to streamline processes and build in new safety features. The Go-Live is only the beginning of the ePMA journey.

Innovations in evaluating ambulatory costs of Cystic Fibrosis care – A comparative study across multidisciplinary care centres in Ireland and the United States

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1. *Children's Health Ireland,* ***2.*** *Boston Children's Hospital,* ***3.*** *National University Ireland, Maynooth,* ***4.*** *University College Dublin,* ***5.*** *Harvard Business School*

Cystic Fibrosis (CF) affects over 160,000 individuals globally and has seen improved survival rates due to multidisciplinary care models and pharmacotherapy innovations. However, the associated costs remain substantial, prompting our study to evaluate the expense of CF ambulatory care at two US and Irish CF centres.
We aimed to understand how care structure influences costs.
People with CF (PwCF) at large paediatric CF centres in the United States and Ireland were recruited for parallel observational, prospective studies. Lead clinicians at both sites identified and agreed three strata of patients (0-11 months, 1-5 years, and 6-17 years). Process maps were developed for each of the age cohorts and the cost of ambulatory care, with emphasis on routine CF clinic visits, were measured utilising time-driven activity-based costing. A dollar per minute capacity cost rate (CCR) was measured for all resources used in the care cycle. Total direct cost was obtained by multiplying the CCR for each resource by the time the resource was used during the patient's care cycle. Cost was summed across all resource types to obtain the cost over the entire care cycle. Service operations were benchmarked to one site and variance analysis was performed.
58 PwCF were included in the analysis. Physicians (US) and Respiratory Consultants (Ireland) had the highest CCRs. Physicians and registered dieticians spent the most time with patients in the US compared to the clinical nurse specialists and dieticians in Ireland. The total variance in cost for clinical visits was largest in the 6-17 year-old group. In this group, quantity variance (variance in duration of time spent with patients) and skill mix variance (variance in clinician type performing service for a given time) were the largest drivers in total variance.
Our study innovatively characterised the cost of multidisciplinary care during ambulatory clinic visits for PwCF, providing insights into the distinctive features of two different health systems on both sides of the Atlantic. Granular understanding of cost and comparison of resource utilisation between centres provides valuable, managerially relevant insights.

Obtaining Global Antimicrobial Stewardship Accreditation in an Acute Irish Hospital: A Process Review

Ms. Claire McSherry [1], ***Ms. Jacqueline Walsh*** [2], ***Dr. Suzy FitzGerald*** [3]

1. *Antimicrobial Pharmacist, St Columcille's Hospital, Loughlinstown,* ***2.*** *Pharmacist Executive Manager, St Columcille's Hospital, Loughlinstown,* ***3.*** *Consultant Microbiologist, St Columcille's Hospital, Loughlinstown*

Introduction

In September 2022, the British Society for Antimicrobial Chemotherapy (BSAC) launched the Global Antimicrobial Stewardship Accreditation Scheme (GAMSAS) with the purpose of reviewing, mentoring, and accrediting hospital Antimicrobial Stewardship (AMS) programs based on established standards. Recognizing the importance of AMS accreditation, the AMS team at St Columcille's Hospital, Loughlinstown (SCHL) included it as a key priority in their AMS Annual Plan in 2023.

Aims

To obtain Global Antimicrobial Stewardship Accreditation for SCHL.

Methods

The AMS team completed the GAMSAS online screening questionnaire and following virtual meetings with the BSAC team, were accepted onto the scheme. Funding was provided by senior hospital management. The team accessed a dedicated web portal to complete four self-assessment questionnaires, covering various aspects of AMS - national AMS in Ireland, hospital AMS program, infection prevention control (IPC) and healthcare-associated infections (HAI) surveillance activities, and hospital microbiology lab services and antimicrobial resistance (AMR) surveillance. They submitted supporting evidence, including web-links and uploaded hospital documentation. An on-site visit by expert assessors was arranged, involving presentations, demonstrations, meetings with senior management, and visits to clinical areas. Following the visit, the assessors prepared a final report, which was discussed by the accreditation panel to determine the award level and identify areas for improvement. The feedback and results were subsequently shared with the hospital.

Results

As a result of the comprehensive process, SCHL was awarded Level 3 BSAC GAMSAS accreditation, which represents the highest achievable level of accreditation.

Conclusion

The AMS team's experience throughout the accreditation process was positive and provided independent recognition for the services developed. Furthermore, the process highlighted areas in which the team could further improve to achieve the status of a Centre of Excellence. Importantly, the accreditation will serve as a valuable tool to ensure ongoing funding to maintain the robust AMS program within the hospital.

References

https://bsac.org.uk/bsac-launches-global-antimicrobial-stewardship-accreditation-scheme-gamsas/
https://ams-accredit.com/

Passive versus active interventions: a new model to assess the effectiveness of pharmacist interventions on the clinical use of vancomycin and gentamicin.

Ms. Fionnuala Kennedy [1], ***Ms. Roisin Cox*** [1], ***Ms. Orla Reynolds*** [1], ***Ms. Noor Bajalan*** [1], ***Ms. Mahreen Khosa*** [1], ***Ms. Ruth O'Toole*** [1], ***Mr. Giovanni Rinaldi*** [1], ***Ms. Nabaa Dhuhaibawi*** [1], ***Ms. Estela Eraso*** [1], ***Ms. Stephanie Cimi*** [1]

1. *Mater Private Network Dublin*

Introduction

Much of pharmacists' clinical work consists of medication surveillance and review, yet this is not routinely quantified, unlike clinical pharmacy interventions. By quantifying the relationship between medicines surveillance / review (passive interventions) and active interventions (which require an action on the part of a nurse or clinician), we can demonstrate the effectiveness of clinical pharmacist activity in improving the clinical quality of medicines use by clinicians and nurses. Our quality improvement initiative applies this principle to the clinical use of gentamicin and vancomycin, supporting optimization of therapy while minimizing toxicity.

Aims

To assess the effectiveness of a new workflow in improving the clinical use of vancomycin and gentamicin by quantifying the relationship between passive and active interventions.

To increase the percentage of passive interventions and decrease the percentage of active interventions over time. Better medicines management by clinicians and nurses corresponds to a higher proportion of passive interventions by pharmacists.

Methods

- Prospectively identify all patients prescribed vancomycin or gentamicin over 12 months in 2023
- Implement a new workflow in Jan 2023 for managing each patient: this comprises intensive patient monitoring and active intervention where appropriate with respect to dosing, frequency, administration and therapeutic drug monitoring
- Classify every intervention as either passive (no action required) or active (action required).
- Quantify the relationship between passive and active interventions over a period of time

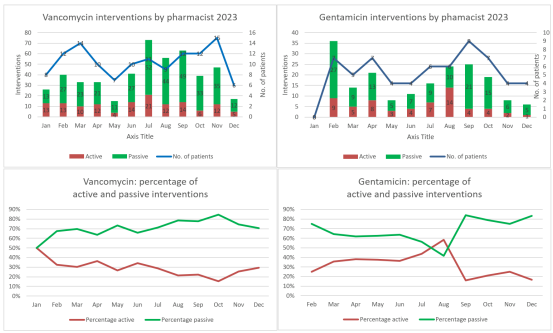
Results

The new workflow resulted in a sustained improvement in the clinical use of both drugs from Jan to Dec 2023 as measured by the percentage of passive and active interventions. However, there is still a requirement for regular active intervention by the pharmacist at the end of the study period which demonstrates the need for:

- continuing education by the clinical pharmacist to address the knowledge gap for clinicians and nurses
- continued surveillance to identify patients in whom vancomycin / gentamicin use can be optimized.

Conclusion

Quantifying the relationship between passive and active interventions shows the effectiveness of clinical pharmacists in improving clinical medicines management. This model has been effectively applied to the clinical use of vancomycin and gentamicin in our quality improvement initiative.



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Penicillin Allergy De-Labelling

Ms. Maura Hegarty [1], ***Ms. Donna Martin*** [1], ***Ms. Abbie McKenna*** [1], ***Dr. Billie Caceda*** [1]

1. *Cavan and Monaghan Hospital*

Introduction

Approximately 10% of inpatients are labelled as penicillin allergic but the vast majority have not experienced an allergic reaction, rather another type of adverse reaction. In addition many reactions to penicillin have occurred over 10 years ago and details of the reaction are not recalled. Having a label of penicillin allergy results in patients receiving sub-optimal alternative antibiotics and this may lead to poorer outcomes. It is therefore beneficial to assess whether patients have experienced a true allergic reaction and consider removing the allergy label in those that have not (1).

Aims

This study aimed to reduce inappropriate labelling of penicillin allergy in patients in Cavan and Monaghan Hospital (CMH).

Methods

We adapted The Scottish Antimicrobial Prescribing Group (SAPG) penicillin allergy toolkit complying with local governance requirements. This is designed to be used by non-allergy specialists and supports the identification and removal of penicillin allergy labels in patients who do not have a history of Type 1 or 4 hypersensitivity reactions (1). We undertook education on the toolkit and on penicillin allergy awareness with staff. The toolkit is available on The AMS App. and the AMS Team support the process.

Results

We undertook a baseline audit of all adult medical and surgical inpatients in Oct 2022 and a re-audit in July 2023.

Audit	**2022 (*n*=*67*)**	**2023 (*n*=*128*)**
Allergy Box Completion	80%	100%
Documentation of Allergy Type	Antimicrobial: 78% Penicillin: 60%	Antimicrobial: 77% Penicillin: 75%
Type of reaction documented (penicillin allergy)	14%	27%
% suitable for delabelling	43%	53%

The AMS Pharmacist also maintained a record of patients assessed from 18/10/22 – 08/01/24. 49 patients in total were screened, 30 were deemed eligible for de-labelling and of these 27 were successfully de-labelled.

Conclusion

This study has demonstrated we have improved allergy assessment and documentation as well as delabelling some patients. However more work needs to be undertaken to build on this.

References

The Scottish Antimicrobial Prescribing Group. Penicillin Allergy De-Labelling. [Homepage on the Internet]. UK [updated 2021; cited 2024 Jan 30]. Available from: https://www.sapg.scot/guidance-qi-tools/quality-improvement-tools/penicillin-allergy-de-labelling/

Semi-Automated versus Manual Compounding of Chemotherapy: A Pilot Study of Dosing Accuracy and Pharmacy Technician Perceptions at a University Teaching Hospital.

Ms. Bernadette Hayes [1], ***Ms. Harriet Bennett Lenane*** [2], ***Ms. olivia flynn*** [1]

1. *University Hospital Limerick,* ***2.*** *School of Pharmacy, University College Cork*

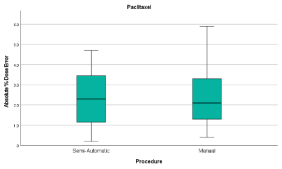
Introduction: The semi-automated compounding of intravenous chemotherapy is an evolving technology with previously identified benefits to patients and operator safety (1). The introduction of a Gri-fill® 4 semi-automated unit to University Hospital Limerick (UHL) in 2022 marked the first use of semi-automated chemotherapy compounding in Ireland. Limited research exists regarding implementation of semi-automated units within Irish hospitals.

Aims: Compare dosing accuracy and preparation time of manually versus semi-automated compounded chemotherapy. To understand perceptions of pharmacy technicians regarding manual versus semi-automated compounding of chemotherapy.

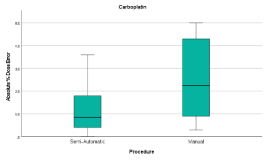
Methods: Dose accuracy (absolute percentage dose error versus prescribed dose), was obtained gravimetrically for 90 chemotherapy preparations. Preparations of Carboplatin and Paclitaxel were included. Dose accuracy was compared statistically using the Mann-Whitney U-test ($p<0.05$ denotes statistical significance). Time (seconds) for compounding was recorded. A survey consisting of both Likert-scale and free-text questions was disseminated to ten pharmacy technicians working aseptic compounding unit (ACU). Likert-scale responses were analysed using descriptive statistics, while qualitative statements were analysed thematically.

Results: A statistically significant difference in dose accuracy between manual (mean rank=28.20) versus semi-automated (mean rank=16.80) groups was found for the Carboplatin preparations ($p<0.05$, $U=367.5$). Absolute percentage dose error tended to be higher using the manual procedure. No significant difference in dose accuracy was observed between procedures for Paclitaxel ($p>0.05$, $U=285.0$) (manual mean rank=22.61, semi-automated mean rank=24.39). Overall, 0 semi-automated and 2 manual preparations exceeded the >5% dose accuracy limit. For both drugs, median preparation times were longer for the semi-automated (200.5, 199 seconds) versus manual (116.5, 141 seconds) procedures. 90% of pharmacy technicians responded to the survey. 55% found working with the semi-automated unit demanding. 100% found preparations compounded manually were safer (versus 66% for semi-automated preparations). Practical issues with the semi-automated unit, including lack of space within the isolator were highlighted. Its capacity to produce large multiples of one preparation type was recognised.

Conclusion: This study highlighted comparative (Paclitaxel) or improved (Carboplatin) dosing accuracy of a semi-automated compounding unit versus manual procedure. While the number of preparations analysed was limited and necessity for larger confirmatory studies is acknowledged, this data highlights capacity for semi-automated units to accurately prepare chemotherapy.



Boxplot illustration of the Absolute percentage dose error of the Semi-automated (left) and Manual (right) Paclitaxel preparations.



Boxplot illustration of the Absolute percentage dose error of the Semi-automated (left) and Manual (right) Carboplatin preparations.

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Authors Index