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Patric
Patric [illegible] Clinical Services [illegible] Nottingham University Hospitals for [illegible] includes managing and developing a thriving team of pharmacy professionals. Previously [illegible] Cost Drugs pharmacist in Nottingham, collaboratively with the commissioners and specialties within the hospital to introduce and manage medicines commissioned outside of PbR tariff. He also worked in Leicester as [illegible] Respiratory pharmacist and as part of the Cystic Fibrosis MDT.

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Abstract Handbook

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Abstracts and poster presentations

*N/A denotes abstracts that have been previously published elsewhere. Please refer to poster on display.

1. Statin management and intolerance documentation

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Background

NICE CG181[1] recommends atorvastatin 20mg for primary prevention of cardiovascular disease (CVD) in patients with a QRISK3 ≥10%. Secondary prevention indicated by NICE CG181[1] in patients with CVD is atorvastatin 80mg. Despite their efficacy, statin adverse effects, e.g., muscle pain, can result in intolerance. There is concern that patients are labelled statin intolerant too readily and stopping statin therapy is associated with an increased risk of cardiovascular events.

Objectives

The objective was to determine whether acute ischaemic stroke patients admitted to the Stroke Unit had received appropriate prophylactic statin treatment prior to admission.
Five standards of 100% compliance rate were investigated: 1) Prophylactic statin treatment had been prescribed in line with NICE CG181. Where no statin had been prescribed there was documentation of: 2) Statin intolerance/ allergy, 3) Nature of intolerance/ allergy, 4) Statins tried. 5) Eligible patients were (re-)initiated on statin treatment during admission.

Method

This study did not require ethics approval; Trust approval was obtained. Data was collected retrospectively with a piloted data collection form from patient notes including filed patient summary care records (SCRs), ePMA, Nervecentre and e-searcher software. Only patients admitted to the Stroke Unit were analysed. A total population of 38 patients was identified during February 2023. Microsoft Excel software was used to analyse the data and identify trends and key findings.

Results

Only 29% (11/38) acute ischaemic stroke patients had been prescribed a statin pre-admission. Of the remaining 71% (27/38) not on a statin, 7.4% (2/27) were eligible but had no clear rationale why they had not been prescribed a statin, 44.4 % (12/27) were > 84 years; 18.5% (5/27) had a pre-admission QRISK3 score of <10%, 7.4% (2/27) had been prescribed a statin alternative, one with a statin; 22.2% (6/27) had documented statin intolerance/ allergy, with 50% (3/6) specifying the nature of their intolerance/ allergy and 100% (6/6) documenting a list of statins trialled. This was the only standard that achieved 100% compliance. 50% (3/6) had only tried 1 statin before being labelled statin intolerant. In 67% (2/3) of cases, the 'allergic' reaction was documented as diarrhoea or nausea. Subsequently 37% (10/27) patients were newly prescribed and tolerated a statin during admission.

Conclusion

The standards were not met. The study suggests that not all eligible patients are prescribed statins, statin intolerance/ allergy documentation is not always fully completed and where completed, patients are labelled as allergic inappropriately or statin intolerant after trialling only a single statin. The consequences are avoidable stroke admissions.
Recommendations include referring clinicians to the Statin Intolerance Pathway[2]; requesting basic data capture to ensure consistent data recording on SCRs; referring patients for community pharmacy follow-up, particularly those previously identified as statin intolerant; and consideration of statin alternatives where statins are genuinely intolerable in line with National Stroke Guidelines[3].

References

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2. Proactive, virtual, pharmacist led extended DAPT review service

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This study did not require ethics approval.

Background

At 12 months post myocardial infarction (MI), full dose dual antiplatelet therapy (DAPT) (aspirin + prasugrel 10mg/5mg or ticagrelor 90mg or clopidogrel) should be stopped and only extended (with aspirin + ticagrelor 60mg) in defined patients[1,2]. We found many patients inappropriately remaining on full dose DAPT longer than 12 months and extended DAPT not being widely initiated.

The Leeds Cardiology Medicines Optimisation team developed a virtual referral service to support general practitioners (GPs) make person-centred decisions.

Objectives

To evaluate the impact of a pharmacist led, proactive approach to the review of extended DAPT on reducing number of patients taking full dose DAPT longer than recommended and advice on appropriate initiation of ticagrelor 60mg (extended DAPT).

Method

At the 4- 8 week post MI review, patients are assessed for eligibility for treatment with extended DAPT (guided by the PEGASUS-TIMI 54 trial criteria[3]). If eligible, they are referred to the proactive service for a full DAPT review 10-11 months post MI. The patients' suitability for extended DAPT is confirmed and bleeding risk assessed, aided by the PRECISE-DAPT tool[4], while also considering specific patient circumstances. This decision would be communicated by letter to GP for action.

Results

79 patients were referred to the proactive service over 12 months. 62 (78%) males. Average age 64 (SD±12). Of these, 74 patients (94%) needed a review for extended therapy. Of the remaining, four had suffered a subsequent MI and one had DAPT stopped prematurely due to a GI bleed.

The mean number of months for the review to occur and full dose DAPT to be stopped was 12 months (SD±1). This compares to 17 months (SD±6.7) of 200 patients previously analysed using the primary care referral service.

15 (19%) of the 79 patients referred proactively were not recommended for extended DAPT compared to 60.5% in the reactive approach. This was either due to ineligibility for treatment or an unacceptable bleeding risk.

Conclusions

The proactive reviews for extended DAPT therapy took place at a more appropriate time than when referred reactively from primary care. No reviewed patients had been on full dose DAPT beyond 4 months after the initial 12 months (reduced risk of bleeding). Fewer patients were not recommended for treatment with extended DAPT, suggesting more appropriate referrals from secondary care.

References

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3. Establishing interest in a system-wide medication safety webinar series

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This study did not require ethics approval.

Background

Medication safety crosses the whole healthcare system and involves a range of healthcare professionals (HCPs). Networks promote improvements through sharing experiences and learning [1]. The Medication Safety Officer (MSO) [2] network has a monthly medication safety webinar however; this is a 'closed network', with webinars and resources only available to registered MSOs. MSO roles are mainly found in the acute care setting and most MSOs are pharmacists [3].

A national multidisciplinary cross-sector network for HCPs with an interest in medication safety does not exist. Creating networking opportunities such as webinars could increase shared learning, provide peer support, and reduce inefficiencies from silo working.

Objective

To determine HCP interest in a system wide multidisciplinary medication safety webinar series and associated resources.

Method

A pilot 'Medication Safety Across the System (MSATS) webinar was planned, promoted, and delivered in March 2023 with a second webinar in June 2023. Keynote speakers, a person with lived experience, and HCPs who had made local and system wide improvements presented on a specific medication safety issue. Associated resources were hosted on the SPS website.

Interest was measured via numbers attending, accessing the webinar recording and associated resources, and the number of comments attendees posted in the webinar chat box.

A post event evaluation survey asked attendees how useful they found the webinar, if it met expectations, and if they would recommend this type of meeting. MSOs were asked if they were happy if an MSATS webinar replaced the MSO webinar every quarter.

Results

- 1,300 HCPs attended the 2 webinars (average attendance at MSO webinar = 150).
- 79% of attendees were pharmacists or pharmacy technicians.
- 53% were from secondary care.
- 665 HCPs accessed the webinar recordings up to the end of August.
- Associated resources were accessed 1930 times up to the end of August.
- 414 comments were posted in the webinar chat box on average each webinar.
- 90% of attendees stated they were very happy or happy with the usefulness of the webinar.
- 88% of attendees stated the webinar had met their expectations.
- 99% of attendees stated they would recommend this type of meeting to their colleagues.
- 100% of MSOs stated they were happy with the proposal of an MSATS webinar replacing an MSO webinar every quarter.

Conclusions

The results show that there is interest in a system wide multidisciplinary medication safety webinar series, although a limitation is that this is based on only two webinars. The MSATS webinars had more attendees than MSO webinars, with an increased attendance from outside secondary care. Further webinars are planned with an aim of increasing attendee numbers and building a medication safety activist network. Attendance is primarily pharmacy professionals therefore improved promotion to other HCPs is needed.

References

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3. MHRA held MSO register (accessed 7 June 2023)

4. Adherence to NICE guidelines for statin prescribing in diabetic patients

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Background

Consistent data demonstrated efficacy of statins in cardiovascular disease (CVD) prevention and mortality reduction through modifying lipid profile [1].

NICE:CG181 recommends high-intensity statin, namely atorvastatin 20mg daily in type 2 diabetes with a high risk of developing CVD. This study aims to identify adherence to NICE:CG181 within the stroke unit of an acute trust.

Objectives

Determine whether type 1 and type 2 diabetic patients at risk of CVD are appropriately treated with a statin in line with NICE:CG181 by comparing practice against three standards of 100% compliance.

1. Primary prevention of CVD: Offer atorvastatin 20mg to patients with a 10-year risk greater than 10%.
2. All type 1 diabetic patients: Offer atorvastatin 20mg to patients with an increased risk of CVD.
3. Secondary prevention of CVD: Start a high intensity statin treatment such as atorvastatin 80mg. Lower dose acceptable if contraindicated.

Method

This study did not require ethics approval and was registered with the Trust Clinical Effectiveness department. Data was collected from stroke unit patients to calculate their QRISK3 score and related to statin prescribing. This was collected over a two-week period in March 2023 retrospectively with a piloted data collection form. Patient notes, ePMA, Nervecentre, eSearcher software, and patient summary care records (SCRs) were accessed. Microsoft excel software was used to analyse the data and identify trends and key findings.

Results

The sample size was 47 patients, 30 males and 17 females. 39/47 (83%) with type 2 diabetes, and 8/47 (17%) with type 1 diabetes.

Standard 1: 15/21 (71%) of the patients considered eligible for primary prevention treatment were appropriately prescribed a statin. 5/21 (24%) of type 2 diabetic patients with a QRISK3 score ≥10% were prescribed atorvastatin 20mg.

Standard 2: 1/2 (50%) of type 1 diabetic patients eligible for primary prevention treatment was offered atorvastatin 20mg once daily.

Standard 3: 7/24, (29%) patients being treated for secondary prevention were newly prescribed atorvastatin 80mg on admission. In total 21/24 (88%) were prescribed a statin.

Limitations included having a small sample size and lack of detailed allergy status present.

Conclusion

The standards were not met in accordance with the NICE CG181 guidelines and improvements are needed. However, there was a high statin prescribing adherence for secondary prevention (21/24, 88%).

Recommendations:

- Education sessions for prescribers on NICE CG181 guidelines.
- Patients not receiving a statin or alternative lipid lowering treatment should have a detailed explanation in their SCRs. For example, intentional non-adherence from the patient or possible drug interaction.
- A diabetic diagnosis prompt should appear on ePMA to avoid unintentional statin omission. Rationale for alternative dose or treatment prescribed should be included in the patients' SCRs.
- Results should be shared within the primary care team to address statin prescribing in this cohort and introduce ownership of regularly updating patient details on ePMA.

Reference

1. National Institute for Health and Care Excellence. NICE CG181: Cardiovascular disease: risk assessment and reduction, including lipid modification. https://www.nice.org.uk/guidance/cg181 (accessed 15 March 2023).

6. Primary Care Network (PCN) pharmacy technicians support NHS sustainability: reducing carbon by reviewing inhaler use

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This study did not require ethics approval.

Context

The NHS aims to reduce its carbon footprint significantly by 2032.[1] A major focus includes a shift to lower carbon inhalers via two themes. Salbutamol metered dose inhalers (MDIs) are the single biggest source of carbon emissions from NHS prescribing and lower carbon options are available. Dry powder inhalers (DPIs) are less harmful to the environment than traditional MDIs but less commonly prescribed. The 2022/23 PCN Investment and Impact Fund (IIF) includes sustainability targets to support change in these two areas: mean carbon emissions/salbutamol inhaler prescribed to encourage lower carbon products; non-salbutamol MDI prescriptions to encourage more DPI prescribing and align with best practice in other European countries where DPIs are predominantly prescribed.

Problem

Practice staff including nurses and pharmacists have worked hard to review patients opportunistically to explore carbon saving options. However, it is a labour-intensive process and requires patient support and lengthy discussions, hence progress has been slow. Prior to the Covid pandemic patient reviews were predominantly carried out face to face to ensure understanding and check inhaler technique.

Intervention

To accelerate progress toward PCN targets, the lead pharmacist ran technician training to ensure their understanding was robust. The PCN team developed standard operating procedures for technicians to systematically review specific patient groups using different high carbon inhalers. Technicians worked within practice teams including nurses and pharmacists to ensure a safe, consistent, and agreed practice approach, establishing who to refer patients to, when necessary. Where patients did not want to change, they were coded on clinical systems, DPI not indicated, which helped achieve IIF targets and ensure patients were not rechallenged. This approach was implemented after the Covid pandemic when patient contacts were routinely carried out via telephone, but with an ability to send information links by text or email, including inhaler technique videos. Often patients were offered to trial a new device with the option to change or decline later.

Effects of changes

Primary care PCN prescribing data between Sep21-Mar23 demonstrated, improvement from 16th to 2nd percentile carbon impact salbutamol; 33rd to 4th percentile for reduction of non-salbutamol MDIs.[2] All Gloucestershire PCNs reached lower carbon salbutamol targets. Forest of Dean PCN achieved 41% DPI use, the only one of 15 local PCNs to achieve the challenging national DPI target (35-44%)[2]

Conclusions

Using a systematic PCN pharmacy technician review approach has speeded local progression to lower carbon inhalers using a skill mix approach. Carrying out reviews by telephone proved to be a viable option and many patients continue to choose this medium for medicines review over face to face. Patient feedback for technician contacts to discuss medicines use has been very positive. Currently technicians are working on wider respiratory good practice targets, including reviewing overuse of salbutamol, by reviewing system set up and establishing red flags with practice staff.

References

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7. Specialist pharmacist involvement in NRAS medicines self-management module for rheumatoid arthritis patients

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Context

Studies have shown RA patients' disease knowledge is largely poor[1] highlighting the need for education resources to promote self-management, as championed by NHSE[2].
A workforce crisis in rheumatology has created a shortage of expert resources across the multidisciplinary team (MDT)[3] limiting patient access to specialist care, including expert pharmacists, to support them in disease management and educational needs.

Problem

Workforce challenges have impacted rheumatology patient care[1]. To create capacity NHS England champions Patient Initiated Follow Up (PIFU)[2] which requires developed patient disease knowledge and self-management ability.

Intervention

A core mission for the National Rheumatoid Arthritis Society (NRAS) is empowering patients to be more knowledgeable about their disease. Previously NRAS delivered costly and unsustainable self-management strategy face-to-face. In 2019 they moved to a modular e-learning programme. SMILE-RA (Self-Management Individualised Learning Environment in Rheumatoid Arthritis) was designed to be simple to use, interactive and engaging.
Between 2021 and 2022 seven modules were launched, including a medication module. Every module was written and developed with patient representation and health professionals, including an expert pharmacist for the medication module, ensuring quality.
Patients are directed to SMILE-RA by various routes and select and complete modules at their own pace.
In July 2022 participants in the SMILE-RA programme were asked to complete a survey assessing self-reported outcomes. All registered participants (independent of degree of programme completion) were sent a link to answer questions about their perceived knowledge regarding disease and ability to self-mange.
This study did not require ethics approval.

Measurement of improvement

Most participants discovered SMILE-RA through NRAS channels, disappointingly only 9% were signposted by their rheumatology team. Results are for the overall programme (results of individual modules are pending). No baseline knowledge was measured, as there is a known education need in this patient cohort.[1]
930 people were surveyed, 132(14%) responded, 124/132(94%) responders reported achievement of all module learning goals. 95/132(72%) reported improved understanding of the importance of self-management and increased knowledge of RA medications 82/132(62%).
Patients reported an increase in disease knowledge 90/132(68%) and confidence to self-manage 82/132(62%). 114/132(86%) identified links to other resources as helpful, 74/132(56%) proclaimed better understanding of the MDT, 111/132(84%) would recommend SMILE-RA to other RA patients.

Conclusions

SMILE-RA increases patient perception of knowledge and self-management ability, supporting PIFU at a challenging time for rheumatology services.
More rheumatology patients will access primary care, including community and practice-based pharmacists in future for support.
With little rheumatology pharmacy expertise nationally, training in rheumatology is imperative to empower pharmacy colleagues. SMILE-RA, provides an important training tool for colleagues, including pharmacists across all sectors. The inclusion of an expert pharmacist in the SMILE-RA programme provides quality assurance of the module content.
Future research is required to assess impact on non-specialist pharmacist knowledge.

References

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8. Evaluating the impact of a pharmacist independent prescriber within Ambulatory Care

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Background

The NHS urgently needs to improve capacity, potentially by extending the scope of practice of Pharmacist Independent Prescribers (PIPs) and integrating them into multidisciplinary teams. Studies suggest that there is a role for pharmacists in the management of anticoagulation therapy in the outpatient setting[1,2]. The outpatient Ambulatory Care Clinic (ACC) in a large hospital investigates and treats patients with acute conditions such as deep vein thrombosis (DVT), pulmonary embolism (PE), superficial thrombophlebitis (STP) and cellulitis. There is currently no pharmacist involvement within the clinic.

Objectives

To evaluate the overall feasibility and impact of a PIP working on a regular basis in the clinic. Specific outcome measures included the number of patients managed by the PIP per clinic, number of discharges to the GP, number of onward referrals and outcomes of the PIP consultations compared to baseline data.

Method

A pharmacist framework was developed with inclusion/exclusion criteria, onward referral criteria and the consultation documentation required by the PIP. The PIP attended the ACC for one morning per week over 8 weeks from February-April 2022. The PIP reviewed patients (in person/via telephone), returning for a follow-up having previously been diagnosed with a DVT, PE, STP or cellulitis. Data was collected on the day the PIP was working in the clinic and for comparative purposes, the following day (without the PIP) for baseline data. Data included the breakdown of appointments by healthcare professional, and outcome of the consultations (discharge to GP, onward referral, treatment started etc). This study did not require ethical approval.

Results

The PIP reviewed 11% (n=14) of the total number of patients who attended the clinic which equates to 33% of return patients. The most common consultation outcome for the PIP was discharging patients to the GP with no further follow up in clinic required. The number of discharges to the GP did not differ between baseline and when the PIP was present. More referrals to the medical team occurred when the PIP was present within the clinic (n=3). Onward referrals to other specialities (n=1) and discharges (n=9) were made appropriately with no negative feedback or questions from the MDT. Extrapolation to a full year indicates that a PIP could review at least 400 patients each year within the clinic.

Conclusion

The introduction of a PIP to the ACC would be beneficial to the Acute & General Medicine directorate. The study demonstrates that a PIP is able to assess and discharge patients to the GP at the same rate as other healthcare professionals. This could allow the service to expand and improve patient access to care. Further work is required to define the specific role for a PIP working within the clinic.

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9. Measuring appropriate antimicrobial use in a large, multi-site teaching hospital

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Background

Successful antimicrobial stewardship strategies require an ongoing robust programme of auditing to promote safe and appropriate use of antimicrobials.[1] Point prevalence surveys provide a useful snap- shot of antimicrobial prescribing at the time of audit but data collection and analysis are labour intensive and time consuming and can be difficult to carry out especially in very large NHS organisations.

Objectives

To estimate the total burden of antimicrobial use in a large teaching Trust comprising seven inpatient hospitals and over 2500 beds.

To evaluate the benefits of recently implemented electronic patient record system and an online data capture application (MEG).

Methods

Patients on antimicrobials were audited against a defined set of antimicrobial stewardship standards to monitor compliance with the organisation's stewardship programme. This survey did not require ethics approval.

The audit tool was designed and uploaded into the data capture application by the antimicrobial pharmacists. Prior to the audit clinical pharmacists received training on how to use MEG.

All paediatric and adult inpatient wards were audited by ward pharmacists in a two-week period. Each ward was audited on one day and all patients on antimicrobials on that day were included in the sample. Using the e-prescribing system a report of all patients on antimicrobials was generated. Pharmacists used an online proforma to submit data. The electronic data collection tool (MEG) provided automated data analysis, and this was checked by an antimicrobial pharmacist.

Results

At the time of the audit there were 2533 inpatients eligible for review. 30% (n=743) of all inpatients were prescribed an antimicrobial. 69% (n=511) of patients were receiving an IV antimicrobial. The most prescribed antimicrobial was co-amoxiclav (n=257). Antimicrobial use and duration complied with guidelines or infection specialist advice in 91% and 84% of cases respectively.

Results were available in MEG instantaneously and required minimal further analysis prior to dissemination. Feedback from pharmacists was that, using the electronic systems, information was easier to obtain and record and had less impact on their daily workload than previous paper or hybrid systems.

Conclusion

While prevalence of antimicrobial prescribing was in keeping with expected rates[2], a high number of patients were receiving intravenous and broad-spectrum antimicrobials for longer than advised durations.

The information gained from the audit will direct the development of key priority areas and quality improvement interventions for antimicrobial stewardship in our organisation and the new electronic format will allow more frequent assessment and prescriber feedback.

Using electronic systems for both data collection and analysis allows rapid turnaround of results delivered in a format that can be configured to hospital, speciality, and ward level. This is the largest antimicrobial audit the organisation has carried out and new electronic systems have enabled the promptest feedback of results to date.

References

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10. Development of a clinical pharmacy service within Prince Charles Hospital emergency department

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Background

NHS emergency care services are experiencing high levels of pressure secondary to increased demand and poor patient flow. The 'Six Goals for Urgent and Emergency Care' outlines the importance of optimal hospital care from the point of admission, including patients having a reconciled list of medications within 24 hours of admission.[1] Prior to this project, there was no clinical pharmacy service or presence within the emergency department (ED) at Prince Charles Hospital (PCH). Baseline data collected over one week from medical and surgical wards identified that the time from patient admission to completion of the medicine reconciliation averaged at 58 hours 2 minutes. Only 28.6% of patients had their medicines reconciled by a member of the pharmacy team within 24 hours.

Objective(s)

To determine whether providing a clinical pharmacy service to PCH ED reduces the time taken to medication history and reconciliation (MHR), reduces the number of medication errors, reduces ward workload and improves staff satisfaction.

Method

Between January and March 2022, one pharmacist and technician provided a clinical pharmacy service to Majors ED Monday to Friday from 9am to 5pm. Data collection forms used by the pharmacy team captured data on time to MHR and daily activities. To allow for qualitative feedback, a staff satisfaction survey created on Microsoft Forms was circulated using QR codes to the multi-disciplinary team. This study did not require ethics approval.

Results

The time from admission to medication history and reconciliation averaged at 19 hours 10 minutes and 19 hours 55 minutes, respectively. Compared to baseline data, patients were seen by the pharmacy team, on average, 32 hours and 49 minutes earlier in ED. 76% of patients had their medicines reconciled within 24 hours of admission. Of the patients seen over 24 hours from admission, 51% had been admitted over a weekend where no pharmacy service was provided. Excluding these patients, 88.2% of medicine reconciliations were completed within 24 hours of admission.
721 prescribing errors and discrepancies were identified and rectified, averaging at 3 discrepancies per patient. This included drug omission, incorrect dosing and incorrect formulations.
231 patients seen in ED were transferred to a second clinical area, helping to reduce the ward team's workload.
From 27 survey responses, 92.6% of staff agreed that the ED pharmacy team plays a significant role to reduce medication errors. A strong theme amongst staff appeared to be the need for more pharmacy presence across ED.

Conclusions

The implementation of an ED clinical pharmacy service allowed for timely MHR, allowing for prompt recognition and resolution of medication errors. Whilst improving medication safety and patient care, this project highlighted the need for a clinical pharmacy service to be provided to ED over the weekend.
Staff acknowledged improved patient flow and reduced ward and pharmacy dispensary workload. Areas for future service delivery include providing a 7-day clinical pharmacy service to ED and expanding the service to ambulatory and GP assessment areas.

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11. Recording patient weight on EPMA

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This study did not require ethics approval.

Background

The Queen Elizabeth Hospital King's Lynn (QEHKL) currently uses a range of paper-based and electronic healthcare record systems. For non-pregnant adults, weight is recorded by nursing staff on admission as part of the Malnutrition Universal Screening Tool (MUST) in the 'Adult Inpatient Nursing Risk Assessment and Prescription of Care' paper booklet[1]. Weight can also be recorded in the Electronic Prescribing and Medicines Administration (EPMA) system, which was introduced in 2021. Recording weight on EPMA was initially not compulsory for adults and this contributed to incorrect dosing and delays dispensing medicines.

After risk assessment, on 01/02/2023, it became compulsory to record adult patient's weight on EPMA before prescribing. Prescribers were reminded to make all reasonable efforts to record an accurate weight, but an estimated weight can be recorded to facilitate timely treatment. Several incidents of patient's weight inaccurately estimated have been reported with some of these leading to incorrect doses or frequencies of medicines being prescribed.

Objectives

This study set out to investigate the recording of patient weight on EPMA. Standards and criteria:

1. Patients must be weighed within 24 hours of admission as part of the MUST screening – 100%
2. Patients have an accurate weight recorded on EPMA – 90%
3. Patients have a discrepancy between estimated and accurate weight less than 10% – 90%

Method

Thirteen adult inpatient wards were visited. Five patients per ward were randomly selected for review on week commencing 03/04/23. The following areas were excluded: Acute Medical Unit, Intensive Care, paediatrics, maternity.

The first accurate weight since admission was obtained from the 'Adult Inpatient Nursing Risk Assessment and Prescription of Care' booklet. The first estimated weight on admission was obtained from EPMA and the date of this was used as a proxy for date of admission.

Results

65 patients' records were reviewed. Three patients were excluded (one patient refused to be weighed and two were admitted prior 01/02/23). Eleven of the remaining 62 patients had not been weighed at the time of data collection.

For the remaining 51 patients, findings against standards:

1. 67%
2. 25%
3. 65%

The mean length of time between an estimated weight being recorded and accurately weighing the patient was 6.8 days. The mean percentage discrepancy between estimated and accurate weight was 13%.

Twelve patients had an accurate weight of under 50kg recorded; eight of these patients had a weight discrepancy between estimated and actual weight of over 10%.

Conclusions

The data collection confirms that weight discrepancies on EPMA are both common and significant. It is of concern that patients are not being weighed in a timely fashion on admission. Of particular note are the discrepancies for patients with a low body weight (under 50kg).

Limitations include the use of the date of estimated weight as a proxy for admission date, the small sample size and lack of random-selection technique.

The establishment of a single electronic location for recording patient weight is recommended.

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12. Clinical outcomes from a pharmacist led remote review cannabis clinic

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This study did not require ethics approval.

Background

In 2018 cannabis-based medicinal products (CBMPs) were rescheduled as a schedule 2 controlled drug allowing prescriptions to be issued by specialist doctors[1]. There are only three CBMPs recommended by National Institute of Health and Care Excellence[2]. CBMPs are an option for patients with inadequate response to standard therapies in numerous chronic conditions[3].
Sapphire Clinics was launched in 2019 for patients to obtain safe and high quality CBMPs. After initial prescription is supplied, pharmacist prescribers conduct follow-up consultations via video call to review treatment and continue prescription. Patient reported outcome measures (PROMs) are completed at each appointment as part of UK Medical Cannabis Registry (UKMCR) which captures observational real-world data.

Objectives

To evaluate clinical outcomes of CBMPs by analysing PROMs completed by patients enrolled in UKMCR between 01/12/2019 to 15/02/2022.

Method

This is an analysis of anonymised data from patients prescribed CBMPs for chronic conditions. Three PROMs were completed at initial, 1-, 3-, 6- and 12-month consultations. *EQ-5D-5L* is a health-related quality of life (HR-QoL) tool assessing 5 domains. A higher EQ-5D-5L index value indicates better health. *Single-Item Sleep Quality Scale (SQS)* is a numerical scale rating sleep quality over past week from 0 (poor) to 10 (excellent). *Generalised Anxiety Disorder-7 (GAD-7)* assesses HR-QoL focusing on anxiety symptoms over past 14-days. A higher score indicates increased anxiety levels.
Exclusion criteria consisted of failure to complete PROMs at baseline or not completing first month of treatment.
Patients provided written consent to participate during initial consultation with a specialist doctor.

Results

2833 patients were included: 2314 completed PROMs at 1-month (M1), 1598 at 3-months (M3), 953 at 6-months (M6) and 208 at 12-months (M12).
Mean EQ-5D-5L index score increased at follow-up compared to baseline. (M1 = 0.42 vs 0.55, $p<0.001$; M12 = 0.47 vs 0.57, $p<0.001$) showing a statistically significant improvement in HR-QoL.
There was a statistically significant reduction in anxiety symptoms as mean GAD-7 score decreased at follow-up stages. (M1 = 8.79 vs 6.04, $p<0.001$; M12 = 6.35 vs 4.75, $p<0.001$).
Mean SQS score increased at follow-up compared to baseline. (M1 = 4.13 vs 5.62, $p<0.001$; M12 = 4.81 vs 6.02, $p<0.001$). This shows a statistically significant improvement in sleep quality during first year of treatment.

Conclusions

CBMP treatment shows significant improvement in HR-QoL in patients treated for various conditions. This demonstrates CBMPs as an effective treatment option in those who have exhausted other therapies.
Patients self-reporting data potentially results in missing data, recall bias and reduced response rate.
Future analysis could focus on specific indications. Also, evaluating cannabis experience (cannabis user vs cannabis naïve) to assess if difference in response.

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13. The impact of developing national Patient Group Direction templates in reproductive health services

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This study did not require ethics approval.

Context
The NHS Specialist Pharmacy Service (SPS) supports the NHS to develop best practice systems of work related to buying, making and using medicines[1]. The second Carter Report concerning operational productivity within non-acute NHS sectors was published in May 2018[2]. It recommended SPS develop a national 'do once' system for organisational medicines governance, including Patient Group Directions (PGDs)[3], for adoption by publicly funded clinical services within England.

Problem
The second Carter Report highlighted the need to increase capacity across organisations. Adopting national PGD templates would reduce time taken to develop local PGDs.

Assessment of problem
The SPS Medicines Governance Do Once (MGDO) programme identified care pathways with national guidance available. This supported development of national PGD templates, reducing duplication, and releasing capacity within organisations.

Intervention
In 2019, SPS collaborated with Faculty of Sexual and Reproductive Health (FSRH) to develop national reproductive health (RH) PGD templates for contraception, following FSRH guidance[4]. Robust governance processes were used.

Strategy for change
The PGD development group consisted of stakeholders including subject matter experts and practitioners. SPS ensured legislative requirements for PGD development were met. Final approval was provided by a dedicated MGDO PGD board. Thirteen downloadable RH PGD templates have been developed and published on the SPS website since 2020. They have recently undergone their 3 year review. Notification of publication is shared with subscribers to SPS weekly update email, Medicines Advice email alerts, and Twitter.

Measurement of improvement
Outcome measures took a number of forms, using both quantitative and qualitative methods.
An online survey for users explored quantitative and qualitative feedback, particularly around uptake and barriers to use.
Digital data relating to unique views on the website were captured. Data were analysed using Excel.

Effects of changes
A user survey received 25 responses. Twenty-one (84%) agreed using national templates reduced time taken for PGD development, estimating time saved as moderate (4 responders) or high (20 responders), with one non-responder.
Barriers were few. One responder unaware; 2 responders used templates as reference point.
User acceptability was high. Most comments themed around consistency and confidence in content; time saved.
Data from website showed 10847 unique page views since RH PGDs publication in 2020.
Self-selecting sample introduces some bias.

Conclusions
Reproductive health PGD templates are in national use, underpinned by a robust review process to account for changes in practice and user comments. Variation and duplication of effort has reduced, with benefits for both reproductive and sexual health services, and associated increased organisational capacity.
Assuming local development of PGD is 3.75 hours 8a pharmacist (mean payscale), a conservative estimate of one third views resulting in local PGDs, we calculate national cost efficiencies so far in excess of £300,000.

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14. Evaluation of a new patient helpline introduced by the uveitis specialist pharmacist

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Context
The work was carried out with the Sussex eye hospital outpatient department uveitis specialist team, focusing on patients requiring immunosuppressive medication. No ethics approval was required.

Problem
Management of patients on immunosuppressive regimes requires more intensive monitoring than other medicines. Patient education and communication is essential for their buy in to the process and optimising their outcomes. With no automated system in place, keeping track of follow up appointments can prove difficult and time consuming, which worsens as patient numbers grow. Improved contact with patients would improve monitoring and outcomes. Access to specialist advice will also improve compliance and overall patient experience.

Assessment of problem
Patients taking immunosuppressive medication should receive thorough counselling and follow up. Clinicians may struggle to fulfil this need within the time constraints of clinic templates. All patient enquires went via the administrative team directly to clinicians. Integration of an expert pharmacist in ophthalmology (EPO) into the uveitis multidisciplinary team (MDT) provides pharmacist led improved education, compliance, monitoring, follow up, and redirection of repeat prescribing away from the clinicians. Patient communication improved with the introduction of a dedicated email helpline, which is monitored by the specialist pharmacist and filters enquiries received by clinicians. All patients initiated on new immunosuppression were given the contact details of the email helpline during medication counselling by the EPO and instructed to contact when blood tests had been taken or with any enquiries they have.

Effects of change
Patients profit from access to EPO via the patient helpline. Analysis of the 900 emails received through the helpline over a two year period showed the main reasons patients used the email were, enquires relating to blood tests, medication supply, appointments, side effects, worsening symptoms and confirming medication instructions. Feedback from a patient satisfaction survey conducted was positive. Patients were asked to rate the service between 1(poor) and 5 (excellent), with 31 patients responding. The results show access to the team was rated 4.65/5, satisfaction with the speed of response was 4.29/5 and the quality of response was rated 4.48/5. Initial informal MDT feedback has also been positive.

Conclusions:
This innovative pharmacy service provides a blueprint for other specialities to incorporate expert pharmacy skills into the direct care of outpatients. This fits with the Carter Report objective to increase the number of actively prescribing pharmacists ensuring optimal use of medicines as part of the hospital pharmacy transformation plan [1]. Patients benefit by having improved access to counselling and advice via the dedicated helpline. Blood results follow up was streamlined using the helpline as a communication tool to flag when bloods had been completed. Clinicians benefit from reduction in patient enquiry workload. On-going challenges are to innovate IT systems, improve patient databases, audit capabilities and access to sufficient clinic space which can be limited.

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15. Feasibility of Integrated Care Boards medicines optimisation rotations in foundation training year

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This study did not require ethics approval.

Background
As part of HEE London & South East (HEE LaSE) resource development for short duration foundation trainee pharmacist (FTP) placements, a need to review Integrated Care Boards (ICB, previously Clinical Commissioning Groups) rotation viability in FTY with the Initial Education and Training of Pharmacists (IETP) reforms was identified. An ICB rotation working group was established to make recommendations for ICB medicines optimisation (MO) rotation within Foundation Training Year (FTY).

Objectives
Understand senior leaders and programme leads perspectives on the viability and experience of ICB joint programme rotations in FTY.

Method
2021/22 Oriel data was reviewed to identify joint ICB Foundation Training Year (FTY) programmes in LaSE region (3 months or longer).
A qualitative research approach using semi-structured interviews was used to collate opinions from:
- LaSE ICB joint programme rotation EPDs (4).
- HEE LaSE FTP and GP Practice Programme Leads (2)
- ICB Chief Pharmacists (4).

Results
Thirteen joint ICB FTY programmes (3 months or longer) were identified. Key findings from interviews were:
- Programme leads reported that current rotations enable FTP awareness of ICB roles and MO at systems level.
- Understanding systems level medicines optimisation and the ICB team role is key to support effective prescribing and meet service delivery needs.
- Concerns identified were the ability of ICB rotations to support patient-facing experience required for independent prescribing, including the ability of FTPs to reach the 'doing' level required for GPhC registration.
- Appropriateness, capacity, and ability to provide ICB specific rotations against other foundation training priorities will differ within localities and systems.
- Sustainability of current 3 month ICB rotations is unlikely to be feasible with the implementation of FTY prescribing training.
- Wider medicines optimisation understanding, principles of cost-effective medicines use and the role of ICB teams is important to support effective prescribing.

The group agreed the following key points for consideration in future early career pharmacist training models:
- There is a need to integrate understanding of strategic MO knowledge within FTY rather than specific rotations, ensuring equitable exposure for FTPs across sectors.
- The direction of travel for foundation year training is system level working through multisector experience and developing prescribing competency. Understanding ICB medicines optimisation roles and functions is key to this and should be integrated to support development.
- PCN/GP practice joint programmes can be utilised to enable ICB MO team exposure in FTY without the need for a specific ICB rotation.
- ICB rotational experience should be more closely aligned with post-registration pathways as there is no direct career pathway from foundation training to ICB roles currently.

Conclusion
Development of knowledge about ICB pharmacy roles and awareness of strategic MO, rather than a specific rotation, is needed during FTY to support development of prescribing competency. Future work should scope FTP perspective on ICB placements.

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16. Has the addition of a Medicines Management Technician (MMT) impacted on critical care units?

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Background

Guidelines for the Provision of Intensive Care Services (GPICS) V2.1 specifies standards and recommendations for staffing of healthcare professionals working within critical care.[1]

GPICS states that pharmacy technicians provide a 'valuable supportive role', being able to undertake several tasks including medicines reconciliation, medicines management and expenditure reporting.[1]

There is documented evidence of benefit to critical care units, its staff, and patients with the employment of a dedicated pharmacist.[2] However, there is no such evidence base for involvement of pharmacy technicians in critical care hence GPICS makes no recommendation of specific staffing levels for pharmacy technicians.

Buckinghamshire Healthcare NHS Trust have employed a dedicated MMT for Critical care and Theatres since November 2021. Quantitative and qualitive data of the work achieved since implementation of a MMT at BHT critical care has been collected and analysed to inform further work and team expansion. There has since been a pharmacy workforce strategy for critical care units.[3]

Objectives

1. To ascertain qualitatively the impact on the MDT within critical care at BHT since the establishment of a pharmacy technician.
2. To analyse the cost savings directly related to stock control measures implemented by the pharmacy technician.

Method

This study did not require ethics approval.

Qualitative survey created using Microsoft forms was released to the entire critical care MDT and results collated after 2 months. Questions were both closed yes/no and open style.

JAC was used to review cost saving data related to Critical Care including the top 20 spend, stock holding changes and returns. The data was analysed with comparisons made between the times a MMT had been present and during leave.

Results

Forty members of the MDT completed the questionnaire. 98% of responders agreed, pharmacy related questions are resolved quicker. 90% felt there was a difference on days the MMT was not available. 98% of responders believed the presence of an MMT had a positive impact on patient care and outcomes.

Limitations to the response rate included the rotational doctor changes.

Stock management has yielded a cost saving to the Critical care medicines budget of >£30,000 in the financial year 2022-2023. During times when the MMT was on leave the average monthly savings from stock management was approximately £1300. Significantly less per month compared to times the pharmacy technician was on site and in post full time with an average monthly saving of approximately £3500.

Conclusions

The inclusion of a MMT in the Critical care MDT at BHT has positively impacted both staff and patients. Cost savings have proven to be significantly better when a MMT is present. Further studies of how MMT roles impact critical care units in other NHS trusts should be conducted to gather more data on this topic.

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17. Opioid prescribing at postoperative discharge: evaluating impact of updated acute pain management guideline

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Background

Opioid prescribing is an international concern due to association with psychosocial problems and hospitalisation. Total opioid prescribing in East Riding of Yorkshire is one of the highest in England [1]. Although mostly started in primary care, long-term opioid prescribing can follow hospitalisation. One of the main cohorts in hospitals started on opioids are postoperative patients. The risk of dependence and addiction linked with opioids in non-cancer patients has been raised nationally. The Trust's updated guideline (July 2021) focused on reducing opioid use and encouraging prescribing of opioids with the lowest addiction potential. This project aimed to identify trends of opioid prescribing on discharge before and after the guideline update.

Objectives

1. Review total oral opioid, strong opioid (morphine, oxycodone) and weak opioid (tramadol, codeine, dihydrocodeine) prescribing trends on discharge before and after guideline update.
2. Audit opioid prescribing for postoperative patients on discharge.

Audit standards:

100% of patients prescribed:

- New regular strong modified-release opioids are reviewed after 3 days.
- New strong opioids on discharge have a maximum duration of 5 days including inpatient doses.
- Weak opioids on discharge have a maximum duration of 7 days including inpatient doses.
- New strong opioids are prescribed morphine unless contra-indicated.
- Regular strong opioids are prescribed an appropriate breakthrough dose.
- Strong opioids are prescribed regular paracetamol+/- NSAID/Neuropathic adjuvant.

Method

Retrospective hospital pharmacy dispensing data for discharge prescriptions from 12 surgical wards was obtained for April 2020-September 2022 (before and after guideline update). Oral opioid quantities were converted to oral morphine 10mg equivalence as per British National Formulary guidance. Retrospective audit data was collected from electronic records for 120 postoperative patients started on opioids (March 2023-April 2023). Data was analysed descriptively using Excel.

Results

A 26% reduction in total oral opioid prescribing was achieved (15-months before/after guideline update (112,340 doses of oral morphine 10mg equivalence April'20-June'21 versus 83,283 July'21-Sept'22)). Oxycodone and tramadol prescribing decreased by 51% and 24% respectively, morphine and codeine increased by 52% and 21% respectively. Audit revealed that only 50% of patients newly prescribed a regular strong opioid (30/120) were reviewed after 3 days and only seven (24%) had appropriate breakthrough doses. Of 34 patients discharged with newly prescribed strong opioids (regular or when required), 85% received over the recommended five days. Of 65 patients discharged with newly started weak opioids, 43% received over the recommended seven days. As recommended the strong opioid morphine was selected for 87/99 patients. Most patients prescribed strong opioids were prescribed paracetamol with/without adjuvant (97/99 patients).

Conclusions

The updated guideline had a positive impact in reducing total oral opioid prescribing, including the use of oxycodone. Future work will focus on educating multidisciplinary staff in improving adherence to the guideline and explore if prescribed opioids on discharge are reviewed in primary care for these patients. Limitations included short audit data collection timeframe and data from one Trust, which may not be reflective of practices elsewhere.

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18. Exploring barriers and enablers of antibiotic amnesty campaigns in independent community pharmacies

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This study required and received ethics approval from the University of Huddersfield.

Background

Antibiotic-resistant infections are the biggest threat to modern medicine. In 2019 there were 1.27 million deaths globally as a result of antibiotic resistance. Without a solution, estimates predict that by 2050 that number will be closer to 10 million people every year who are dying from previously treatable bacterial infections[1]. The end of the antibiotic era is a rising concern, as antimicrobial resistance continues to be recognised as a global health threat[2]. Promoting appropriate use and disposal of antibiotics is a key aspect of antibiotic amnesty campaigns, which work towards the bigger picture of reducing antimicrobial resistance (AMR)[3]. Studies that fill in the gaps in knowledge regarding enablers and barriers to antibiotic amnesties are lacking.

Objectives

To investigate the main barriers and enablers of antibiotic amnesty campaigns in independent community pharmacies in Huddersfield, Bradford, Sheffield and Leeds and to identify the most commonly returned antibiotics.

Method

A semi-structured interview guide was developed and used to interview pharmacy staff located in Huddersfield, Bradford, Sheffield and Leeds. Data was collected over a designated 5-week period in January and February 2023. Consenting pharmacy staff gave recorded audio interviews either over Microsoft Teams or face-to-face. Data was analysed into themes and all recordings were deleted once transcribed.

Results

There were 8 interviews conducted, averaging 20 minutes in duration, 4 high street, 2 local neighbourhood pharmacies, 2 located next to GP surgeries. Participants included 5 pharmacist managers and 3 community pharmacists, 50% male and female, 50% from each age group, 18-39 and 40-59. Six were full time ,2 part time; 4 with over 10 years of experience, 3 with 2 to 5 years and 1 with less than 2 years. Main themes extracted by thematic analysis included; factors enabling campaigns, education enabling amnesties and raising awareness to maximise unwanted antibiotics returned. Sub-themes suggesting the enablers to antibiotic amnesty campaigns, were counselling patients, promotional resources and personal approach. Barriers to successful antibiotic amnesties were lack of educating staff, patient fear of re-infection (keeping spare), inappropriate prescribing and lack of patient education. Penicillins were the most returned antibiotics, especially Amoxicillin. Amoxicillin is the most recommended first-line treatment for many types of bacterial infections[4].

Conclusion

The main enablers of antibiotic amnesties were effective counselling and successful use of promotional resources. The main barriers were lack of patient education and lack of staff education. These main barriers can be tackled with provision of sufficient education**,** training and knowledge for patients and staff which could improve success of future antibiotic amnesty campaigns. Amoxicillin is the most returned antibiotic. It should only be prescribed immediately when needed and back-up prescriptions or other treatment options should be considered first.

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19. Checking the evidence behind the guidelines for the management of postpartum haemorrhage

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This study did not require ethics approval.

Background
Postpartum haemorrhage (PPH) is a leading cause of maternal morbidity and mortality worldwide[1,2]. PPH rates in Australia, Canada, United States and United Kingdom are increasing, along with PPH associated severe adverse outcomes[1,2]. This cannot be explained by changes in risk factors[1], consequently other factors, including the management of PPH, need to be considered. Fluid resuscitation is recommended for PPH management[2], yet the evidence behind this recommendation is unclear.

Objective
To identify the quality of evidence underpinning fluid resuscitation recommendations in PPH clinical guidelines.

Method
In October 2022, fluid resuscitation guidelines for PPH management from Australia, Canada and Britain were assessed using Grading of Recommendations Assessment, Development and Evaluation (GRADE) criteria[3] to evaluate the quality of evidence. If guidelines did not use GRADE, it was applied independently by a hospital and an academic pharmacist.

Results
There were differences in the types of fluids and volumes recommended. Only the Queensland (Australia) and British guidelines, the latter being based on the Scottish guidelines, referenced publications to support their recommendations. All recommendations regarding fluid type and volume were GRADE 'expert opinion' or equivalent. References cited as the sources of recommendations included historical documents that did not cite any supporting evidence. There were also cautions regarding dilution coagulopathy in these guidelines.

Conclusions
Evidence supporting guidelines for fluid resuscitation in PPH is at best GRADE 'expert opinion' based on historical documents, despite the more recent publication of research examining fluid types and volumes. For example, the REFILL trial investigated the relationship between fluid volume and coagulopathy and found that restrictive fluid resuscitation (0.75-1 times blood lost) was an alternative to liberal fluid resuscitation (1.5 to 2 times blood lost) as it did not increase the need for blood transfusion, alter coagulation parameters or increase adverse events[4].
The evaluated guidelines were from several countries, however those not written in English and local guidelines were excluded, some of which may have included stronger evidence to support their recommendations or be from countries where the incidence of PPH is stable or falling. Given the increase in PPH in Australia, Canada, United States and United Kingdom and the potentially devastating consequences of PPH, further research to determine the optimal fluid and volume for resuscitation, and the updating of the guidelines require urgent attention.

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21. Improving warfarin prescribing safety and administration through optimisation of an EPMA solution

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This study did not require ethics approval.

Background

There are several benefits of Electronic Prescribing and Medication Administration (EPMA) systems, including the ability to support a reduction in medication omission errors.[1] It should be noted that without appropriate implementation, EPMA systems can lead to increased errors.[2] Appropriate utilisation of Clinical Decision Support (CDS) and continuous development/review of the system applications is essential to ensure ongoing improvement in patient safety and medication use. [3]

Objective(s)

We sought to assess improvements made to existing CDS system specifically for a warfarin prescribing care plan in a large NHS teaching trust. Secondly to assess changes to missed doses 90 days pre and post implementation.

Methods

A retrospective pre- and post-service evaluation was undertaken on wards with high warfarin usage (cardiothoracic wards at St. Bartholomew's Hospital, London), to investigate the incidence of warfarin missed doses before and after care plan updates. Data was accessed from the electronic system Millennium® between June 2022 and December 2022. We collected data on patients for 90 days before and 90 days after implementation. All warfarin administration were recorded, and data analysed to assess intentional dose omission (i.e. INR too high or intentionally with-held) and unintentional (i.e. dose not prescribed or dose not recorded as given). Other medications were not assessed as part of this audit.

Results

Before updating the care plan, 936 (90.9%) doses were administered out of 1060 total warfarin doses; 97 doses were omitted either intentionally as per the clinical notes (2.8%; n=29) and unintentionally missed prescription (5.9%; n=62). After successful amendment on the EPMA warfarin care plan, 830 (93.5%) warfarin doses were administered out of 888 total warfarin doses post-updating; 58 doses were omitted either intentionally (4.2%; n=37) and unintentionally missed prescription (1.8%; n=16). Our results suggested an absolute reduction in unintentional missed prescription of warfarin by 4.1% (P-value < 0.001, determined by chi square test).

Conclusions

As part of the CDS, the updated care plan significantly reduced rates of warfarin dose omission. In particular the update has reduced rates of unintentional missed doses and has led to improvements in patient safety. We are working to promote changes made to the CDS to embed in CDS in other Trusts using the same EPMA system. Limitations to the study include; limited sample size, comparison to other medications and if data were pulled in real time there would have been better capture of results and ability to intervene errors.

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22. Delivering a carbapenem reduction strategy at a district general hospital in England

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Background

Carbapenems are a group of antibacterial drugs that should be reserved for drug-resistant and difficult to treat infections caused by Gram-negative bacteria [1]. Use of carbapenems is linked to the selection of multi- and extensively-drug resistant organisms, particularly carbapenem-resistant organisms [2] that are clinically challenging to treat due to the need to use toxic and expensive agents with poor evidence for success. Since 2016, Kettering General Hospital (KGH) has consistently been one of the biggest users of carbapenems (approximate mean 150 Defined Daily Doses [DDDs]/1000 admissions); 1.99 times more than the average use across all hospitals in England (approximately 75 DDDs/1000 admission) and 2.48 times more than non-teaching hospitals in England (approximately 61 DDDs/1000 admissions)

Objectives

To develop and implement a carbapenem reduction strategy that achieves a measurable and sustained reduction in carbapenem prescribing.

Methods

The antimicrobial pharmacy and medical microbiology team developed a carbapenem reduction strategy in January 2021. The plan focused on the following: Optimising the carbapenem authorisation processes (simplified, provided 24/7, with reduced durations authorised), reviewing sepsis guidelines and their implementation, increasing the use of antimicrobial guidelines, increasing education and awareness, and increased AMS-team review of patients commenced on meropenem. The first actions were to be delivered by April 2021.

Prescribing data (DDDs per 1000 admissions, including day case) were obtained through Rx-Info Define and analysed further in Microsoft Excel to evaluate yearly average carbapenem use and change over time. Ethical approval was not required for this project.

Results

Over the 2021-22 financial year, mean carbapenem use was reduced by 27.5% (to 108.9 DDDs/1000 admissions) compared to the pre-pandemic baseline and reduced by 42.9% compared to the 2020-21 mean (190.8 DDDs/1000 admissions) when pandemic surges were more impactful on antimicrobial prescribing. This decreased use has been sustained since the implementation of the plan along with a reduction in month-on-month variation in prescribing volume. However, KGH needs to make a further 51.1% reduction in use to sit within the mean usage in non-teaching hospitals across England (53.2, SD ±4.5, range 50.7 to 56.9 DDDs/1000 admissions).

Most of the actions achieved were low-hanging-fruit (easy to achieve with large impact) and were within direct scope of the antimicrobial team to achieve. Outstanding and new actions are more challenging to achieve and will need wider and senior engagement from the Trust. Barriers to delivering the plan arose through inability to secure training sessions, pandemic recovery and staffing levels, and information technology issues.

Conclusions and Next steps

The strategy delivered marked and sustained reductions in carbapenem prescribing at KGH. Further reductions will need to be delivered by engaging with senior clinicians and managers across the organisation, improving carbapenem prescribing reports to specialities and divisions, removing carbapenems from all guidelines, and improving AMS education to all staff groups.

References

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23. A novel pharmacist led hospital clinic to address secondary prevention lipid management

R. Logan, Shrewsbury and Telford Hospital NHS Trust, Telford

This study did not require ethics approval.

Context
This project was carried out in an acute NHS hospital trust and led by a Specialist Pharmacist. The focus was all patients that had been diagnosed with coronary artery disease (CAD) following an admission to hospital in the preceding six months.

Problem
Cholesterol lowering medication is started in hospital when patients are diagnosed with CAD. NICE[1] recommends lipid levels are rechecked after 3 months and treatment titrated to meet reduction targets. It was observed that this was not always achieved and so patients were at risk of poor future cardiovascular outcomes[2].

Assessment of problem
A list of patients recently discharged with CAD was collated and each patient was reviewed to identify if their lipid profile had been checked in line with the national guidelines[3]. Out of 168 patients reviewed, 60 patients had not been monitored in line with the recommendations (35%).

Intervention
A pilot pharmacist-led clinic was introduced to run over 6 months. The Pharmacist used cardiac rehabilitation lists from the last 3 months to identify 60 patients without appropriate lipid monitoring. They were all sent a blood form in the post and 24 patients attended the phlebotomy service. Their lipid profiles were reviewed and the 17 patients not at target were invited to clinic. The clinic model involved a medication review by the clinical pharmacist using shared decision-making principles and the national lipid pathway to optimise patients' therapy to achieve shared lipid targets.

Measurement of improvement
Each patient had their lipid levels checked three months after clinic and continued to be seen until target levels were met. Once all patients were discharged from the service, average lipid levels were analysed for improvement and comparison to national recommendations.

Effects of changes
Of the 17 patients seen in clinic, the mean initial non-HDLc was 3.3mmol/L, this was reduced to a mean of 2.3mmol/L after clinic. The percentage reduction seen for each patient ranged from 12% to 56% (Mean 29%). The effect of this intervention on coronary events could not be assessed due to small sample size.

Conclusions
A Pharmacist led clinic was effective in improving compliance with monitoring requirements and optimising patients lipid lowering therapy post-discharge following CAD diagnosis. Further work is needed to expand the clinic model to ensure equitable access to services for all patients. Patient attendance at phlebotomy services was low and it has since been identified that rurality presents a local health inequality. Funding has been secured to procure a point of care cholesterol testing machine to integrate the clinic into the cardiac rehabilitation service.

References

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24. An audit to assess adherence to prescribing ceftriaxone against paediatric antibiotic guidelines

S. Maqsood, X. D. Gondongwe, P. Panesar, S. Eisen, S. Bose, University College London Hospitals NHS Foundation Trust

This study did not require ethics approval and was approved by trust audit lead.

Background

Ceftriaxone is commonly used in paediatrics due to its broad spectrum of activity, but inappropriate dosing can lead to antimicrobial resistance and adverse effects.[1] This audit conducted at a single, tertiary care, acute hospital organisation in England, assessed adherence to local paediatric (1month – 11years) ceftriaxone prescribing guidance. The audit standards based on a teaching hospitals guidelines are given below.

Standards

1. 100% of ceftriaxone prescriptions indicated for sepsis, pneumonia and cellulitis for patients aged 1 month-11 years follow the dosing regimen of 80mg/kg IV OD (maximum 4g OD)
2. 100% of ceftriaxone prescriptions indicated for meningitis or meningoencephalitis for patients aged 1 month-11 years follow the dosing regimen of 100mg/kg IV OD (maximum 4g OD).
3. 100% of ceftriaxone prescriptions for ambulatory care have been stepped down to 50mg/kg IV OD (for meningitis 80mg/kg IV OD)
4. 100% of ceftriaxone prescriptions for patients aged 1 month-11 years are reviewed by a registrar or consultant within 48 hours

Method

Retrospective ceftriaxone doses and indications was collected for all patients aged 1 month – 11 years admitted between 1st April and 31st July 2022 using our electronic healthcare records. Microsoft Excel was used to collate and analyse data.

Results

94 ceftriaxone prescriptions were reviewed and categorised into the indications listed in standards 1-3. More than half (55%) of prescriptions for sepsis, pneumonia and cellulitis met standard 1 while the rest were treated with the ambulation dose of 50mg/kg, falling within the BNFc recommended range. Only a third (30%) of prescriptions for meningitis met standard 2. The other 70% were prescribed a reduced dose of 50-80mg/kg with two patients being underdosed against both the local and national guidelines. [2,3,4] All prescriptions (100%) for ambulation patients, who required a step-down from the initial dosing regimen, were prescribed the appropriate dosing regimen (standard 3). The total 94 prescriptions met standard 4 and were reviewed within 48 hours of being prescribed.

Conclusions

This audit demonstrated consistent review of ceftriaxone prescription and step-down doses. However, gaps in adherence to ceftriaxone dosing guidelines for meningitis were also evident. We recommend a setting up a stakeholder group of the wider multidisciplinary team using the quality improvement methodology to identify the best solutions to improve adherence. The limitations of the study specifically for the meningitis group included a small sample size, which may not be representative of the entire population.

References

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25. Considering prognosis as part structured medication review in care homes – influence on cost-efficacy and areas of deprescribing

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This study did not require ethics approval.

Background

The Enhanced Health in Care Homes Framework (EHCH) recognises structured medication review (SMR) as a key component of optimal healthcare for care home residents. (1)

Person-centred SMR is recognised as being associated with reductions in polypharmacy, adverse drug reactions, admission to hospital, and mortality. Admission to a care home (CH) is a poor prognostic indicator, with over half of residents likely in their last year of life. (2)

An interdisciplinary team of secondary care frailty specialists ran a pilot providing key elements of EHCH (including SMR) to care home residents through Ageing Well funding.

Objectives

We aimed to evaluate the influence of prognosis on outcomes of SMR for care home residents. Outcomes were defined as reduction in number of unique medicines per patient, annualised cost-savings from medication changes, and most commonly de-prescribed drug classes.

Methods

The team consisted of a consultant geriatrician, specialist pharmacist, general practitioners, clinical fellow, physician associate and paramedic practitioner. Both residential and nursing facilities were included and were identified through high rates of hospital admission/death, self-referral by CH or their GP practice, or referral by CQC. A comprehensive geriatric assessment was carried out for each resident by one or more team members, including prognostication (broadly aligning with Gold Standards Framework tool), advance care planning and SMR. Likely prognosis was categorised as >1year or <1year for the purpose of evaluation.

Results

SMRs were completed for 750 residents across 20 CHs. 325 (43%) were categorised as likely prognosis <1yr (including 60 likely last short months and 5 last days). Average number of unique medicines per resident was 8.37 pre-review and 7.19 post-review in >1yr group, vs 8.22 pre-review and 6.70 post-review in <1yr group. Total annual cost savings were £65,106 >1yr and £80 ,232 <1yr (average per resident £153 >1yr and £247 <1yr). Most commonly deprescribed drug classes with >1yr prognosis were laxatives, lipid-lowering, and vitamins. Most common classes with <1yr were laxatives, oral nutritional supplements, and antidepressants.

Conclusions/Discussion

Based on these findings, prognosis did not have a significant impact on reducing number of unique medicines per patient. However, higher cost savings are seen from changes made in those with shorter prognosis, and the types of medicines deprescribed as part of SMR are likely to be influenced. Of note, team members felt consideration of prognosis provided a useful framework for conversations with residents/families regarding risks vs benefits of medicines. One limitation to findings was large variability in baseline polypharmacy across CH sites. Future work will focus on sharing learning from the pilot, including supporting primary care clinicians to consider prognosis as part of SMR.

References

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26. An audit to assess venous thromboembolism prevention measures for COVID-19 positive inpatients

S. Patel, C. Pui, J. Manorajah, D. Vinod, Chelsea and Westminster Hospital NHS Foundation Trust, London

This audit did not require ethics approval.

Background

Coronavirus (COVID-19) is a viral respiratory illness characterised by a cytokine outburst with hyperinflammation, hypercoagulability, platelet activation, endothelial dysfunction and immobility. Venous thromboembolism (VTE) is recognised as an important complication of COVID-19[1]. Anticoagulation management in COVID-19 is topical and of particular interest.

Objective(s)

The aim was to assess VTE prevention management in COVID-positive hospitalised inpatients, and assess compliance to local and NICE guidance.

Objectives were to establish the following:

- ≥ 95% VTE risk assessment completion on admission *(by the time of the first Consultant review (within 14 hours) and within 24 hours of admission)*
- Prescribing of appropriate pharmacological thromboprophylaxis during admission and on discharge, unless contraindicated
- If critically-ill adult inpatients are prescribed appropriate mechanical thromboprophylaxis during admission, unless contraindicated

Methods

Retrospective audit in November 2022, using data collection from electronic patient records.

Audit standards were agreed by the multidisciplinary team, with a local target set at 90%.

A defined inclusion and exclusion criteria was applied to the patient selection process. Inpatients were identified by a laboratory reported COVID-positive (polymerase chain reaction) test result on the electronic system.

Patient demographics, medical documentation, VTE risk assessment forms, pathology/radiology results, oxygen requirements, medication chart and discharge summaries were reviewed to assess performance against standards to evaluate VTE prevention management. Patients were followed up for 30 days to identify if any thrombotic (venous and/or arterial) event(s) occurred.

Results

Audit included 66 COVID-positive inpatients across two hospital sites.

- VTE risk assessment completion within 14 hours and 24 hours of admission was 89% and 97%, respectively.
- 84% of inpatients were prescribed appropriate pharmacological thromboprophylaxis during admission, unless contraindicated.
- 67% of critically-ill inpatients were prescribed appropriate mechanical thromboprophylaxis.
- 100% of asymptomatic COVID-positive inpatients established on anticoagulation therapy prior to hospital admission continued on established anticoagulant agent during admission as appropriate.
- 63% of inpatients were prescribed appropriate thromboprophylaxis on discharge, unless contraindicated.
- 3 thrombotic events (myocardial infarction, ischaemic stroke, renal emboli) occurred during a 30-day follow-up.

Conclusions

COVID-19 patients are at increased risk of VTE. Ongoing education and awareness is required, particularly for rotating clinical staff.

Pharmacists have a pivotal role in reviewing thrombosis and bleeding risk factors to identify patients at risk, checking pharmacological and mechanical (particularly for critically-ill patients who are immobile) thromboprophylaxis including appropriate agent and dosing, managing patients established on anticoagulation therapy prior to admission for appropriate management during admission e.g. interventions, potential drug interactions, nil by mouth patients. Thromboprophylaxis on discharge should be offered to reduce the risk of VTE which is up to 90 days from admission.

Clear guidance on VTE prevention measures for COVID-19 patients will help ensure patient safety and care.

An action plan for recommendations to address gaps was developed and is being led by the VTE multidisciplinary team.

Limitations: Due to time constraints, patients admitted within one month (during winter period) were assessed, and a 30 day follow-up period instead of 90 day follow-up.

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27. Medication safety initiatives to improve incident reporting rates and reduce medication-related harm

S. Patel, M. Patel, I. Grayston, D. Linnard, Chelsea and Westminster Hospital NHS Foundation Trust, London

Context

Unsafe medication practices and medication errors are a leading cause of avoidable harm in healthcare globally[1]. 10% of incidents reported to the National Reporting and Learning System (NRLS) relates to medication-related incidents[2]. Reducing medication–related harm and improving medication-related incident reporting are focal objectives for the Trust Medication Safety Group (MSG) across two hospital sites, to improve patient safety outcomes.

Problem

To embed measures and indicators of organisational medication safety culture, and improve medication-related incident reporting rates within the Trust. Safe systems are typically characterised by high rates of reporting incidents including near misses, with a culture of greater openness and transparency[2]. Opportunities present for systems review, particularly root causes of harm, shared learning and increased awareness.

Assessment of problem / Intervention / Strategy for change / Measurement of improvement

Monthly medication safety metrics highlighted non-compliance to the Trust target for medication-related safety incidents per 1,000 finished consultant episode bed days. Trust target set in accordance with national performance data for benchmarking with other organisations.

The multidisciplinary MSG led a 6-month PDSA action plan (ethics approval not required) on medication safety initiatives to improve incident reporting rates, and share wider learning from incidents to reduce medication-related harm. The following were implemented:

- Monthly review and analysis of medication-related incident themes and trends, with feedback to Pharmacy department and MSG.
- Incident reporting analysis to identify under-reporting clinical areas/staff groups to target focal education.
- Development and monthly circulation of Trustwide Medication Safety Bulletins e.g.
    - Annual medication-related incidents summary including top medications reported, incident themes and changes to practice e.g. new guidance, changes to electronic prescribing system to support safe prescribing, administration and documentation.
    - Safety updates on high risk medications e.g. antibiotics, anticoagulants.
    - Process on how and what to report for medication-related incidents to encourage reporting.
- Quality Safety Round delivered to nursing staff to raise awareness on the importance of reporting medication-related incidents.
- 'How to' incident reporting guides circulated to support staff.
- Incident reported included in induction programmes (for pharmacy and junior medical staff).
- Changes to practice and implemented measures disseminated to showcase benefits from incident reporting.
- Development of a new cross-site Pharmacy incident and management reporting policy to outline processes, and support management
- Monthly analysis of trends and themes from the near miss error log for shared learning and awareness.
- Medication-related incident reporting and investigation included in the trainee pharmacist clinical governance rotation

Effects of changes

- Trust performance for medication-related reporting rates achieved in April.
- Medication Safety Bulletins well received with positive staff feedback, and requested by other organisations.
- Increased awareness, and a more open and transparent medication safety culture across the Trust.
- Optimisation of electronic prescribing system to support safe prescribing and administration.

Conclusions

The medication safety initiatives have improved awareness on benefits of incident reporting to enhance patient safety. Shared learning has increased staff engagement and is continuing to be driven via the MSG.

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28. Prescribing for orthostatic hypotension: audit of midodrine/fludrocortisone initiation and monitoring

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This study did not require ethics approval.

Background

Orthostatic hypotension (OH) increases the risk of falls and is more prevalent in older population. Fludrocortisone is recommended as first-line for OH in the United Kingdom, however it is unlicensed. Midodrine is recommended as second-line, alone or in combination with fludrocortisone. Midodrine is licensed for OH due to autonomic dysfunction when corrective factors have been ruled out and other forms of treatment are inadequate; use for other types of OH are unlicensed (1). Medicines optimisation before treatment initiation is pivotal to assess the clinical need and suitability outside their authorised indications. Thus, this audit aimed to evaluate prescribing practice of midodrine/fludrocortisone for OH, in compliance with the Trust's guidelines.

Objectives

1. To identify patients started on midodrine/fludrocortisone for OH during admission at the hospital.
2. Review if midodrine/fludrocortisone prescribing is according to the Trust's guideline (2).

Audit standards:

All patients should have:

1 Documented diagnosis of OH.
2 Lying and standing blood pressure (L/S BP) recorded as per Trust guideline.
3 Medications reviewed and optimised (e.g., stopped/dose adjustment) before treatment initiation.
4 No contraindications.
5 L/S BP taken before each dose titration, and at least once weekly until dose and condition are stable.
6 Monitoring in primary care documented on discharge letters.

Method

Patients prescribed fludrocortisone or midodrine between 14/02/2023 and 06/03/2023 were identified from the electronic prescribing system report. Patients prescribed these medicines for other indications than OH, starting before admission, and paediatric patients were excluded. Data was extracted from electronic prescribing and observation systems, and medical notes. Data was entered into Excel and analysed descriptively.

Results

A total of 21 patients were newly prescribed midodrine (n=3) or fludrocortisone (n=18). All patients had diagnosis documented and only one patient was found to have contraindication to therapy. Most patients (n=15, 71%) had their medication reviewed and optimised before the treatment initiation. All patients had L/S BP taken before midodrine or fludrocortisone initiation, however only 14% (n=3/21) had L/S BP taken before each dose titration, and at least once weekly until dose and condition are stable. Out of 20 patients that were discharged with newly started fludrocortisone/ midodrine, n=8 (40%) patients had advice for monitoring in primary care documented on discharge letters, and only n=4 (20%) of them were according to the Trust's guideline.

Conclusions

The audit indicates good compliance with diagnosis documentation and initial monitoring of the therapy. However, there is a need to improve monitoring of L/S BP after initiation and communication of follow-up monitoring to the primary care team. Further work will focus on educating multidisciplinary staff in improving adherence to recommended monitoring requirements, medicine optimisation, and exploring digital options to improve documentation on discharge. The main limitation was a relatively small sample size, although the usage of fludrocortisone and midodrine is relatively low in the Trust.

References

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30. Impact of an integrated heart failure service: supportive discharge and admissions avoidance pathways

L. Rowe, University Hospitals Dorset NHS Foundation Trust, Bournemouth

This study did not require ethics approval.

Context

Heart Failure (HF) patients face high rates of unplanned admissions, readmissions and extended lengths of stays (LOS)[1 & 2.] This joint working project between University Hospitals Dorset and Novartis aimed to develop an integrated HF service incorporating early supported discharge (ESD) and admissions avoidance (AA) pathways.

Problem

HF admissions in Bournemouth continue to rise, reaching 510 in 2019 including 55 readmissions. Patients have one of the longest LOS: median 9 and mean 12 days (2021-2022). Previous audit showed failure to meet NICE quality standard 6[1] (two-week follow-up post-discharge), due to capacity and demand within the community HF team. Secondary care nurse clinics were already at capacity. Timely follow-up reduces the risk of readmission and mortality[1 & 2]. Our primary objective was to improve community care, reduce unplanned admissions, reduce LOS and optimise medical therapy.

Intervention

Weekly clinics established in two primary care networks (PCNs) led by a prescribing pharmacist with enhanced skills. These targeted:

1. ESD; identifying suitable inpatients and first follow-up scheduled pre-discharge.
2. AA through GP or trust HF team referral.

Over 34 weeks,105 clinics were conducted, involving clinical assessment, medication optimisation, venepuncture and patient education.

Measurement of improvement

Data was collected about each clinic appointments. Microsoft Excel was used to collate and analyse data. Data was compared with previously collated trust NICOR data (2021-2022). A qualitative patient experience survey (PREMS) was distributed to all patients.

Effects of change

Patients attended between 1 and 6 clinics before discharge to GP or community HF nurse. This varied based on individual needs and availability of next community nurse follow-up.

ESD (n=27 patients):

- 100% seen ≤ 2 weeks post-discharge.
- Readmission ≤ 30 days: 4% HF-related & 8% non-HF.
- LOS: 5 median & 6.7 mean days.

NICE-approved medical therapy for HF reduced ejection fraction (n=17 patients):

- Post-final clinic: 71% taking four HF medication pillars[2] v 19% pre-first clinic.

AA (n=12 patients):

- 91.7% avoided an HF admission ≤30 days.

PREMS (n=19 responses)

- 100% rated the service as 'Excellent' or 'Good.'

Conclusions

Implementation of an integrated HF service demonstrated positive outcomes. Clinics were accessible within PCNs and patients expressed high satisfaction. ESD appointments arranged at discharge contributed to reducing readmission. NICE-approved medication was optimised in a timely manner. AA clinics contributed to reducing the burden inpatient services. Referrals were lower than expected, possibly due to PCN demographics such as severe frailty who were excluded.

These findings highlight the efficacy of an integrated HF service in enhancing community care. Prescribing pharmacists with enhanced skills can have roles in patients' journeys between sectors. This project provides insight for ongoing service redesign and workforce planning to allow us to provide an effective integrated service to all Bournemouth patients. Ultimately improving patient flow, outcomes and reliance on secondary care.

References

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31. Service evaluation of potential workload from implementing pharmacogenomics testing at Cambridge University Hospitals NHS Foundation Trust

P. Selby, A. Saoulidis, East NHS Genomic Medicine Service Alliance, Cambridgeshire

This study did not require ethics approval.

Background

NHS England aims to accelerate adoption of genomic medicine in the NHS over the next 5 years,[1] and pharmacogenomics is core to this strategy. Pharmacogenomics is already delivered internationally, where pharmacy teams provide guidance and recommendations to clinicians.[2] It is important to assess the impact on acute NHS trust pharmacy teams, should pharmacogenomics testing be widely delivered in acute care.

Objectives

To assess the volume of medicines with actionable pharmacogenomics prescribed for inpatients at Cambridge University Hospitals (CUH).
To understand the impact on clinical teams' workload from implementing a broad pharmacogenomics test panel for all inpatients at CUH.

Method

We analysed medicines administered for all inpatients admitted to CUH over 1 week in September 2022. Records were found using the Medicines Administration Record (MAR) audit function based on the electronic patient record (Epic) at Cambridge University Hospitals NHS Foundation Trust (CUH). The MAR audit reports administered medicines through a bespoke internal reporting system. Results were analysed using Microsoft Excel.
Records were filtered for individual medicines with strongly associated drug-gene interaction and at least one prescribing action, as assessed by Clinical Pharmacogenomics Implementation Consortium (CPIC)[3] and The Pharmacogenomics Knowledgebase (PharmGKB) database.[4] Medicines included were a composite of those assessed as either level A or B strength by CPIC, or Tier 1 Very Important Pharmacogenes by PharmGKB, which we refer to as medicines with actionable pharmacogenomics, and are the most likely candidates for inclusion in a pharmacogenomics gene panel.

Results

There were 3,069 medicines with actionable pharmacogenomics administered amongst 1,790 included inpatients, and median of 1 medicine per patient. Patient location was skewed towards the Emergency Department, followed by transplant wards and intensive care units, cardiology, and gastroenterology wards. The most commonly prescribed pharmaceutical class of medication were for gastroprotection, nausea and vertigo, non-steroidal anti-inflammatory drugs, analgesics, aminoglycosides, antidepressants, antiplatelets, and rheumatic diseases and gout.
The findings are limited by the short evaluation period, omitting day-case patients and omission of regular pre-admission medicines if they were not prescribed during inpatient admissions.

Conclusions

Our findings suggest that implementing pharmacogenomics testing with a panel of genes associated with feasible evidence-based interventions for all inpatients will have a broad impact for acute services, rather than specific patient cohorts. This is likely to significantly impact pharmacy teams by enhancing safety assessment of common medicines. Some highly specialised services will be more affected, such as transplant and intensive care medicine. Development of pharmacy teams' knowledge of pharmacogenomics in acute trusts should include pharmacists and pharmacy technicians working across the trust and not those in isolated specialties.

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32. What do nurses think about second checking processes for injectable medicines?

A. Setra, L. Atwy, N. Shah, H. Matthews, University College London Hospital

This study did not require ethics approval.

Background and Introduction

Injectable medicines are commonly used within secondary care organisations; and considered a high-risk practice (1). Trust policy requests a second check for medicines that are administered intravenously (2). The Institute of Safe Medical Prescribing (ISMP) defines a second check as "a process in which two clinicians independently check each component of prescribing, dispensing and administering medication" (3). Over a 6 month period (April-September 2022) there were 66 medication incidents reported relating to errors with intravenous infusions. 35% were due to errors in preparation, and 41% were due to errors in infusion pump programming. So, we know these errors occur – but, what are the views of the main staff group who administer these medicines?

Aims and Objectives

Our aim was to determine nurse understanding and opinions of second checking processes at UCLH, for medicines to be administered via an infusion pump.

The objectives were to:

1) Determine the current understanding of second checking processes and opinions on what they should include
2) Obtain opinions on how effective staff think the second check process is

Method

Clinical areas were selected based on the number of intravenous medicines they administered, as well as those areas who had the greatest number of incidents reported relating to injectable medication errors. A paper questionnaire was disseminated to a total of 40 nurses within these clinical areas over a 2 week period.

Results

A total of 37 responses were obtained. 84% of nurses were aware that a second check should be performed prior to administration of intravenous medicines. When administering infusions via an infusion pump, 76% of nurses stated they would perform a second check on both the product to be administered, and the infusion rate displayed on the pump. 67% of nurses felt as though second checks were effective / highly effective at preventing infusion related errors. The largest barriers reported to performing a second check were time pressures and workload.

Discussion and Conclusion

This survey demonstrates the variation in interpretation of what a second check constitutes of when administering an injectable medicine intravenously, using an infusion pump. Whilst the majority of nurses felt as though second checks were effective, the results show that time pressures and workload present a barrier in these checks being conducted consistently. A limitation is the sample size utilised, and we will conduct this survey wider. It is clear that further work is required collaboratively with senior nursing colleagues to review barriers to performing second checks; and ensuring that it is clear what a second check should consist of.

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33. Implementing a system wide solution for the storage of patient own medicines

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This study did not require ethics approval.

Introduction

Safe and secure storage of medicines is a mandatory requirement within healthcare settings. For patients who bring their own medicines into hospital, this requirement needs to be balanced with patient empowerment in ensuring that self-administration, where suitable, can occur. Although there are multiple different patient own drug (POD) management systems implemented within organisations, these are often inconsistent, and poorly managed; resulting in poor user experience, and medicines being left out unlocked.

Aim

The aim of this study was to review the types of patient own drug lockers used within a secondary care teaching organisation, and standardise these based on type of unit used, as well as ensuring centralised management.

Methods

This project was broken down into multiple aspects.

1) Review of current lockers and management of these
2) Review of patient own lockers commercially available
3) Standardising the management of lockers across the organisation to ensure they are well maintained

Results

1. An audit conducted of all the lockers used within clinical areas found there were 4 different types of lockers in use, and these ranged from key access to card access. A large proportion did not work as intended, and there was no set process across the organisation for their management. In some instances, companies were being called for troubleshooting costing hundreds of pounds each time.
2. All of the different types of lockers that were available within the UK market were reviewed, and other organisations consulted for feedback. Key stakeholders were included to ensure that the needs of end users were taken into consideration. It was agreed that all lockers would be replaced across the organisation, as there were significant costs associated with callouts and repair.
3. Stakeholders concluded that the biggest challenge faced with storing patients own medicines securely was ensuring lockers were functioning as intended. Reports suggested that non-functioning lockers were reported by end users with very little resolution by Trust estates teams. A pharmacy technician post was established to solely focus on medicines storage – including troubleshooting of lockers. This resulted in one named individual for clinical teams to contact, and a centralised method of ensuring lockers work as intended.

Discussion and Conclusion

All lockers across UCLH were standardised within 2022/23, and end user training conducted within clinical areas to ensure a shared understanding of how these lockers should be managed and maintained. One named individual is able to gather intelligence on good practice in terms of utilisation and processes; and share these more widely to aid improvement. Initial feedback from end users is positive with nursing teams reporting better user experience. Safe and secure walkaround audit results have improved with a greater number of patient own drug lockers being locked.

Next steps

Now the infrastructure is in place for storing patients own medicines securely, and staff are able to confidently use these lockers; we are looking at improving our rates of patient self-administration. The lockers we chose have the ability for a patient own card to be programmed so patients can access medicines for their individual lockers.

34. Pharmacist optimisation and management of antithrombotic medication in pre-operative assessment

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This study did not require ethics approval.

Context
The Royal college of Anaesthetists widely supports embedding a pharmacy service within pre-operative assessment (POA)[1]. Pharmacy's role within POA at an acute teaching trust is minimal, although comprehensive POA with involvement of other specialities is critical to minimising cancellations on the day of surgery[2].
A pharmacist is the ideal healthcare professional to act upon medication advice pre-operatively to minimise increasing anaesthetic workload.

Problem
The deficit in our current service is highlighted by the number of on-the-day cancellations attributed to antithrombotic medication. These patients require an Anaesthetist Opinion (AO) which leaves large numbers of patients with varying complexities awaiting an AO. This can prolong patients To-Come-In (TCI) dates or leave insufficient medication omission time where a TCI has already been allocated.

Assessment of problem
Initial consultation was through pharmacy involvement in updating trust guidelines for antithrombotic management pre-operatively. On-The-Day cancellation data related to antithrombotic medication alone highlighted an approximate loss of £190,000 in 2021. Standardising information in line with guidance would reduce medication related cancellations which led to active discussion around pharmacist involvement at the POA stage.

Intervention
Introduction of a pharmacist in POA would:
- Enable review of patients' clinical parameters to conclude the appropriateness of length of medication omission
- Help to reduce medication errors by improving standardisation of advice given
- Reduce delays in surgery for patients on antithrombotics
- Reduce anaesthetic workload
- Allow for a well-integrated Multi-Disciplinary Team (MDT)

Strategy for change
Preliminary consultation with an anaesthetist was to formulate an implementation plan. It was agreed that a pharmacist would visit POA for one hour per week over twelve weeks. Nursing staff pre-screened POA booklets using the agreed referral criteria and the pharmacist reviewed, documented or communicated advice. Complex queries were discussed within the MDT and feedback was welcomed.

Measurement for improvement
- On average four POA booklets were seen per hour
- The total number of POA booklets that could be seen solely by a pharmacist approximated to over 17% of the workload
- When reviewing cancellation data, no patients seen by the pharmacist were cancelled due to antithrombotic medication
- Positive stakeholder engagement and staff feedback was given during team meetings and presentations

Effects of change
The impact of change has been highlighted through reduction in workload for the anaesthetists and the positive impact on patient safety and satisfaction as well as the reduction in cancellations related to antithrombotics. Challenges encountered were time constraints and cancellations due to COVID-19.

Conclusions
The introduction of a pharmacist in POA has had clear impact, shown by positive results. This has led to submission and executive review of a business case for a pharmacist in POA with potential to recruit in April 2024.

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35. Audit project on the appropriateness of teicoplanin prescribing in Milton Keynes University Hospital

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This study did not require ethics approval.

Background

Teicoplanin is the Trust's preferred glycopeptide antibiotic compared to vancomycin due to the once-daily dosing, less toxic side effects and monitoring requirements[1]. Teicoplanin dosing regimen is weight-dependent, including loading and maintenance doses adjusted according to creatinine clearance (CrCl) from Day 5[2]. As antimicrobial resistance emergence continues to be a public health concern, appropriate teicoplanin use is vital to avoid treatment failure in line with antimicrobial stewardship[3].

Aim and Standards

To assess teicoplanin prescribing compliance with the Trust guideline.
100% compliance was expected for the following standards:

1. Teicoplanin is prescribed for an approved indication according to Trust guideline or by a Consultant Microbiologist.
2. Loading dose of teicoplanin is prescribed for treatment initiation.
3. Appropriate teicoplanin loading dose is prescribed based on actual body weight (ABW) and indication.
4. Appropriate teicoplanin maintenance dose is prescribed until Day 4 based on ABW and indication.
5. Appropriate teicoplanin maintenance dose is prescribed from Day 5 onwards based on CrCl, ABW and indication.

Method

To assess audit feasibility, a pilot was done looking at teicoplanin prescriptions and clinical notes against the audit standards. CrCl was calculated where appropriate. Retrospective data of 18 teicoplanin prescriptions between 08/11/2022-14/11/2022 were extracted from the Electronic Prescribing and Medicines Administration (EPMA) system onto an Excel data collection spreadsheet. No changes were made to the data collection tool. One month's data between 11/10/2022-07/11/2022 were further extracted and process was repeated. Paediatric patients and indications for surgical prophylaxis and *Clostridioides difficile* infection were excluded.

Results

88 patients were included in the study. 90% (n=79) of teicoplanin prescriptions were prescribed for an indication approved on the Trust's antimicrobial guideline or by a Consultant Microbiologist. Teicoplanin loading dose was prescribed for 82% (n=71) of patients. 1 patient was excluded as loading dose was administered in another hospital. 46% (n=40) of patients were prescribed the appropriate teicoplanin loading dose. 60% (n=34) of the 57 patients who continued teicoplanin up until Day 4 were prescribed the appropriate teicoplanin maintenance dose. 56% (n=22) of the 39 patients treated with teicoplanin past Day 4 were prescribed the appropriate teicoplanin maintenance dose. None of the 5 standards were met.

Conclusion

The results indicate inappropriate teicoplanin prescribing against the current Trust guideline which need improvement. Training with prescribers on utilising the EPMA's pre-populated teicoplanin dose prescription function alongside encouraging pledges to be an Antibiotic Guardian are recommended during their induction. This would help avoid prescription errors and reduce antimicrobial resistance development. The data collected did not subdivide patients under specific specialities, which could highlight areas where training should be focused on. This limitation should be addressed when the re-audit due in 1 years' time is carried out, to evaluate the changes implemented.

References

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