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ABSTRACTS POSTER PRESENTATIONS AMGEN AWARD

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This publication contains the abstracts of poster presentations in the field of hospital pharmacy presented at the 'Hospital Pharmacists' Day' held by the Flemish Association of Hospital Pharmacists from Dilbeek (Belgium) on February 3, 2026.

This publication contains seven out of 13 abstracts for which the BJHP received approval for publication in the BJHP by the submitting author.

PP | 1 Paracetamol Switch op intensieve zorg: een haalbare stap naar duurzame zorg

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ACHTERGROND & DOELSTELLING

In oktober 2024 werd in het Universitair Ziekenhuis Gent het green team intensieve zorg (IZ) opgericht, met als doel om de ecologische voetafdruk van de afdeling te verlagen. Het eerste project, de Paracetamol Switch, beoogde een reductie van intraveneuze (IV) naar orale (PO) toediening van paracetamol wanneer klinisch verantwoord. Levenscyclusanalyses hebben aangetoond dat één IV-toediening van paracetamol zorgt voor 628g CO2e, terwijl een orale toediening slechts 38g CO2e genereert. Het IZ-team werd uitgedaagd om binnen zes maanden een 10% IV/PO-switch te realiseren.

METHODEN

Het project omvatte

(1) een retrospectieve analyse van het historisch paracetamolverbruik in 2023 en 2024 op de vier volwassen IZ-afdelingen (52 bedden),

(2) een bewustwordingscampagne met teamrondes, posters, UZ-flash op werkcomputers, nieuwsbrieven en aanpassing van het standaardvoorschrift voor niet-beademde patiënten en

(3) een analyse van het paracetamolverbruik zes maanden na start van het project (07/04/2025 t.e.m. 06/10/2025). De reductie in CO2-uitstoot, hoeveelheid geproduceerd afval, afvalverwerkingskosten en geneesmiddelenkosten werden daarbij berekend.

RESULTATEN

In 2023 en 2024 werd 80,98% van alle paracetamol voorschriften IV toegediend. Zes maanden na implementatie van dit project daalde dit aandeel met 23,75% waardoor het vooropgestelde doel van 10% ruim werd behaald. Deze 23,75% switch resulteerde in de analyseperiode in:

- een reductie van 2178,23kg CO2-uitstoot. Dit komt overeen met een heen-en-terugrit met een benzinewagen van het UZ Gent naar Bangkok (Thailand).
- een kostenbesparing van 6684,05 euro (paracetamol inclusief gebruikt toedieningsmateriaal),
- een afname van de hoeveelheid geproduceerd afval van 346,22kg,
- een kostbesparing in afvalverwerking van 443,23 euro.

DISCUSSIE & CONCLUSIE

De Paracetamol Switch op IZ is een haalbaar, effectief en duurzaam initiatief met meetbare ecologische en economische resultaten. De gerealiseerde 23,75% switch illustreert een sterke betrokkenheid van zorgverleners en bevestigt dat medicatie-optimalisatie een waardevol onderdeel vormt van duurzame ziekenhuiszorg.

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The BJHP is not responsible for the scientific content/contribution. Authors have full responsibility.

PP | 2 Tackling powder expansion in IV antibiotics: A standardized reconstitution approach

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BACKGROUND & AIM

Many IV antibiotics are supplied as powders requiring reconstitution. In pediatric care, partial vial doses are common, demanding accurate volume calculation. Current practice assumes final volume equals added solvent, ignoring powder expansion. This can lead to up to 13% underdosing for partial vial doses. Expansion volumes are inconsistently documented, and many product leaflets omit this information, leaving hospital staff to calculate concentrations themselves.

To co-develop a practical, standardized approach for IV antibiotic reconstitution that accounts for powder expansion without relying on non-rounded, product- or brand-specific concentrations, while maintaining dosing accuracy and simplicity in clinical practice.

METHODS

A pragmatic approach was developed with the pediatric ward. Each vial was reconstituted using a fixed solvent volume per vial strength, independent of manufacturer instructions. Criteria for solvent volume: fits all vials of that strength, ensures complete dissolution, and allows margin for doses requiring two vials. After reconstitution, the entire solution (one or two vials) was withdrawn and diluted to a target volume of 20 mL, resulting in standardized, rounded concentrations per dose strength. Excess was discarded before transferring the calculated dose to the IV container. Vials with pre-attached solvent or dosed in IU were excluded.

RESULTS

Uniform, rounded concentrations were achieved across all evaluated products and vial strengths. Powder expansion impact was neutralized, as dose calculations were based on predefined final volume rather than added solvent. Manufacturer-specific instructions were eliminated, avoiding recalculations during brand substitution. Standardized concentrations simplified dose calculations for nursing staff, reducing error risk. The strategy was successfully integrated into standardized IV medication sets within the electronic prescribing system.

DISCUSSION & CONCLUSION

Standardizing reconstitution and dilution volumes offers a practical solution to prevent underdosing from powder expansion while keeping calculations simple and safe for nursing staff. This approach improves dosing accuracy, workflow efficiency, and patient safety, particularly in pediatric settings.

PP | 3 Direct penicillin allergy delabeling in primary care (PADEL study): results of a pilot study in two general practices

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BACKGROUND & AIM

Penicillin allergy labels are frequently incorrectly assigned. Such inaccurate labels are associated with increased use of second-line antibiotics, poorer clinical outcomes and higher rates of resistant pathogens. This pilot study aimed to evaluate the feasibility of a penicillin allergy questionnaire in primary care, particularly within general practices (GPs).

METHODS

The pilot study was conducted in two GPs in Ghent, Belgium. Between 16 June and 15 August 2025, all patients with a documented penicillin allergy in the electronic medical records were invited to complete a questionnaire, either by post or electronically via REDCap. Non-responders received reminders. Patients were excluded if they were <18 years or lacked a valid e-mail or postal address. Completed questionnaires were multidisciplinary reviewed by two allergists and one infectious diseases specialist, with each case assigned one outcome: the penicillin allergy label could be delabeled, or it was retained. Skin and provocation tests were not included in this pilot phase.

The outcomes were communicated to the general practitioners for amendment of the medical records, and patients were informed of the results.

RESULTS

Of 124 patients with a documented penicillin allergy, 109 were eligible and received a questionnaire (67% electronically, 33% by post). A total of 35 responses were returned, 17 after the initial questionnaire and 18 following reminders, corresponding to a response rate of 32.1%. Following multidisciplinary evaluation, 18 patients (51.4%) were delabeled, while the remaining patients retained their documented allergy.

DISCUSSION & CONCLUSION

This pilot study demonstrates that a questionnaire combined with multidisciplinary review is feasible for reassessing penicillin allergy labels in GP. A substantial proportion of patients were incorrectly labelled, highlighting the potential to improve allergy documentation. In the next phase, additional GPs will be included, and a streamlined flowchart will be developed to enable penicillin allergy delabeling without a multidisciplinary review.

PP | 4 Direct penicillin allergy delabeling at a pre-anaesthesia consultation: picking the low-hanging fruit?

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BACKGROUND & AIM

Penicillin allergy labels are frequently incorrectly assigned. Such inaccurate labels are associated with increased use of second-line antibiotics, poorer clinical outcomes, less efficient surgical antibiotic prophylaxis and higher rates of resistant pathogens. By introducing a direct penicillin allergy delabeling questionnaire (without skin or provocation tests) during the pre-anaesthesia consultation, we aim to assess its impact on incorrect penicillin allergy labels.

METHODS

A brief questionnaire1 was developed and implemented within the electronic medical system of a tertiary care hospital in Ghent, Belgium. Healthcare professionals (e.g. nurses and anaesthesiology trainees) working at the pre-anaesthesia consultation were trained to use the questionnaire. Data from the start in May 2025 until September 2025 were evaluated: the number of patients with a penicillin allergy label who were assessed, the proportion who could be directly delabeled and the underlying reasons for direct delabeling.

RESULTS

Among the 2198 patients seen at the pre-anaesthesia consultation, 195 (8.9%) had a penicillin allergy label. The questionnaire was completed for 167 (167/195, 85.6%) of these patients, resulting in removal of the penicillin allergy label in 73 cases (73/167, 43.7%). The most common reason for delabeling was a history of a mild, isolated skin rash during childhood or more than 10 years ago (n=49). Non-allergic reactions (e.g. headache or yeast infection) were reported by 11 delabeled patients. Uncomplicated intake of a penicillin after the index reaction was mentioned by 11 delabeled patients. Two patients were delabeled because the reported allergic reaction occurred in a family member, without any personal history or symptoms of a penicillin allergy.

DISCUSSION & CONCLUSION

Integrating a short penicillin allergy delabeling questionnaire into the electronic medical record at the pre-anaesthesia consultation can be "low-hanging fruit". It is the first step in our hospital's penicillin allergy delabeling project, with hospital-wide implementation as the ultimate goal.

PP | 5 Ontwikkeling en optimalisatie van een duurzaam doseringsbeleid voor antimicrobiële middelen bij extreme lichaamsgewichten.

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ACHTERGROND & DOELSTELLING

Binnen het Andreaz-netwerk wordt gebruikgemaakt van een gemeenschappelijke antibioticagids ARGON (1). Wegens gebrek aan duidelijke richtlijnen en voldoende onderbouwde literatuur voor aanpassingen, worden dezelfde dosisadviezen toegepast bij extreme lichaamsgewichten (2-4).

Een correcte dosering van antimicrobiële middelen wordt aanzien als een essentiële maatregel binnen Antimicrobiële Stewardship (AMS) ter optimalisatie van de therapie effectiviteit en patiëntveiligheid en om de toenemende resistentie tegen antimicrobiële middelen tegen te gaan.

METHODEN

Aan de hand van een literatuuronderzoek werden de antimicrobiële middelen geselecteerd en dosisaanbevelingen uitgewerkt door het consensuspanel. Deze aanpassingen werden geïntegreerd in de antibioticagids. Vervolgens werden er klinische regels binnen de Check of Medication Appropriateness (CMA) ontwikkeld. Er werd ingezet op een ziekenhuisbrede communicatie en opleiding voor de klinische apothekers. Het aantal potentieel ongeschikte voorschriften (PIP's) werden in de voormeting geïdentificeerd via query's uit het EPD. Voor de nameting zal er beroep gedaan worden op de klinische regels om het aantal PIP's en de acceptatiegraad na te gaan.

RESULTATEN

Op basis van het literatuuronderzoek werden tien antimicrobiële middelen geselecteerd voor verdere dosisoptimalisatie bij obesitas. De communicatie binnen het Jessa ziekenhuis verliep via een infoflash en een nieuwsbrief. De dosisaanbevelingen werden in ARGON aangepast en de klinische apothekers ontvingen een gerichte opleiding over de impact van obesitas op PK/PD.

Tussen 1 mei tem 30 juni 2025 werden 8340 opnames geregistreerd. Hiervan voldeden 854 patiënten (10,2%) aan de criteria obesitas, gedefinieerd als een BMI ≥ 30 of een totaal lichaamsgewicht (TBW) ≥ 120 kg.

Van de 854 patiënten ontvingen 278 een antimicrobiële behandeling, wat resulteerde in 346 afzonderlijke voorschriften. Hiervan werden uiteindelijk 100 voorschriften weerhouden als PIP. Antimicrobiële middelen waarvoor geen dosisaanpassing geformuleerd binnen dit onderzoek of cefazoline bij een BMI ≥ 30 en TBW < 120 kg werden niet weerhouden. De PIP's hadden hoofdzakelijk betrekking op het chirurgische profylaxe. De nameting kon van start gaan op 1 december 2025 en is momenteel lopende.

DISCUSSIE & CONCLUSIE

Er is een duidelijke nood aan meer onderbouwd klinisch onderzoek naar dosisoptimalisatie bij patiënten met obesitas en ondergewicht. Verdere nameting, continue bijsturing en validatie zijn noodzakelijk voor een duurzame implementatie binnen het Jessa en verdere uitrol binnen het Andreaz-netwerk.

The BJHP is not responsible for the scientific content/contribution. Authors have full responsibility.

PP | 6 Aggregation of Monoclonal Antibodies in Clinical Practice: To Tube or Not To Tube?

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BACKGROUND & AIM

Pneumatic transportation systems (PTS) are known to cause mechanical stress, leading to aggregation of protein drugs. The aim was to investigate if transportation by PTS affects the stability and antigen-binding capacity of 5 frequently used antibody drugs in 7 hospitals.

METHODS

Five antibody drugs were selected: bevacizumab (Mvasi®, Amgen), nivolumab (Opdivo®, BMS), pembrolizumab (Keytruda®, MSD), pertuzumab (Perjeta®, Roche) and infliximab (Remsima®, Celltrion). They were diluted in infusion bags with physiological saline and shipped by PTS from the pharmacies to the oncology day-clinics. Samples were analyzed using visual inspection, fluid imaging microscopy (FIM), dynamic light scattering (DLS), nanoparticle tracking analysis (NTA), size-exclusion chromatography (SEC), and biolayer interferometry (BLI) with his-tagged antigens. To understand the impact of PTS, a handheld mechanical sensor (Voltcraft DL®, Conrad) was used to measure the amount of mechanical stress during PTS shippings.

RESULTS

FIM and NTA showed that the number of particles was comparable before and after PTS transportation. These results were confirmed by DLS, showing that antibodies are highly monodisperse and with the expected size. SEC, visual inspection and BLI confirmed that antibody stability is not affected by PTS shippings.

Mechanical stress was observed by varying levels of stress generated by different shipments, equivalent to approximately 3-10 min of orbital shaking at 300 rpm in all 7 hospitals. Orbital shaking of antibody showed that this amount of mechanical stress is below the threshold causing antibody aggregation.

DISCUSSION & CONCLUSION

PTS was confirmed to be the safe way of transportation in 7 hospitals. However, case-by-case investigations for each drug and hospital remain essential to ensure drug quality.

Our experiments showed that PTS transportation did not cause antibody aggregation for 5 examined antibodies in 7 hospitals. In addition, BLI results revealed that the antigen-binding capacity was not affected in the specific circumstances.

PP | 7 Under Pressure: Moving from Laminar Flow to Isolators in a PIC/S World

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BACKGROUND & AIM

From January 2026, compliance with Pharmaceutical Inspection Co-operation Scheme (PIC/S) standards will be mandatory in Belgium. To meet these requirements, a new cleanroom equipped with five isolators was implemented to replace three vertical laminar airflow (LAF) cabinets for cytotoxic compounding. This facility produces approximately 40.000 cytotoxic and monoclonal antibody preparations annually. The transition required workflow adaptations to maintain service levels and timely delivery. This study aimed to compare workflows before and after implementation of isolators.

METHODS

Pharmacy staff identified priority areas for process optimization. Key measures included expanding dose-banding stock preparation with additional chemical stable, frequently prescribed molecules; encouraging physicians to validate chemotherapy one day in advance; organizing isolator workflows through preloading materials and drugs to limit urgent decontamination cycles; and optimizing staffing, particularly during late shifts.

RESULTS

Dose-banding increased from 13 to 20 molecules, representing 54 different stock preparations. Between April and October 2024, 20.925 preparations were produced using isolators, of which 46.5% were dose-banded, compared with 35.6% under LAF conditions. Early prescription improved, with 53.7% of preparations validated on day −1 versus 47.7% previously. Mean preparation time increased marginally from 58 minutes (LAF, 2023) to 59 minutes (isolators, 2024), but timely delivery to oncology wards on day −1 mitigated operational impact.

DISCUSSION & CONCLUSION

The transition from vertical LAF cabinets to isolators was successfully achieved through combined process management strategies. Despite a slight increase in preparation time, service continuity and patient-centered care were maintained. Ongoing evaluation and optimization aligned with PIC/S standards will support sustainable, high-quality cytotoxic compounding.

The BJHP is not responsible for the scientific content/contribution. Authors have full responsibility.

ABSTRACTS VZA AWARD

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This publication contains the abstracts of the master's thesis submitted to obtain the degree of master in hospital pharmacy and submitted for the VZA award. The best master's thesis will be awarded the 'VZA award' at the 'Hospital Pharmacists' Day' held by the Flemish Association of Hospital Pharmacists from Schelle (Belgium) on February 6th, 2024.

This publication contains six out of eight abstracts for which the BJHP received approval for publication in the BJHP by the submitting author.

A | 1 From Hospital to Home: Developing a Home Hospitalization program for Cancer patients at AZ Turnhout

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BACKGROUND & AIM

Advancements in cancer care, evolving patient preferences and new reimbursement policies are shifting treatment from hospitals to patients' homes. Oncological home hospitalization (OHH) offers benefits such as improved quality of life and reduced hospital visits. However, challenges include patient safety, logistical complexity and communication barriers. This thesis supported the development of an OHH program at Algemeen Ziekenhuis Turnhout (AZT), focusing on patient eligibility, suitable parenteral antitumoral drugs, required procedures, home care nurses (HCN) education and financial feasibility.

METHODS

This study employed focus group discussions (FGD) involving four stakeholder groups. Thematic analysis (TA) was applied to the FGD transcripts. A financial analysis focused on subcutaneous (SC) trastuzumab and daratumumab. Flowcharts, Strengths, Weaknesses, Opportunities, Threats (SWOT) analyses and a service level agreement (SLA) were developed.

RESULTS

The results indicated that OHH is a promising model of care. Stakeholders emphasized benefits including enhanced patient comfort, reduced travel burden and stronger transmural collaboration. However, participants also identified operational and logistical barriers that needed to be addressed prior to implementation. Key success factors included clear communication, HCN training, patient education, proper documentation, suitable drugs and a safe patient environment. Financially, OHH showed lower revenue than the day care unit (DCU), with a per-treatment loss of €188,79 for SC trastuzumab and €281,83 for SC daratumumab.

DISCUSSION & CONCLUSION

Stakeholders support OHH at AZT, but barriers include educational gaps, unclear reimbursement frameworks and logistical challenges. Flemish initiatives aim to address these barriers and support integrated transmural care. Despite unfavorable financial analysis, OHH has the potential to become a sustainable and patient-centered alternative in AZT's oncology care with further research and targeted adjustments.

A | 2 Endocavitary probes: A comparative study between two high level disinfection techniques

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BACKGROUND & AIM

The increasing use of endocavitary probes in gynaecology highlights the critical need for adequate high level disinfection to minimize the risk of transmitting infectious diseases. This study aims to compare two high level disinfection methods – chlorine dioxide (ClO_2) foam and ultraviolet C (UV-C) radiation – in terms of their efficacy and practicality. Specifically, the research investigates how both methods compare in reducing microbiological contamination on endocavitary probes, whether there are differences in ATP measurement outcomes after disinfection, and which factors may influence an organization's choice between the two methods. Additionally, the current disinfection process at AZ Klina was analyzed to identify potential areas for improvement and to ensure adherence to the highest standards of patient safety and infection prevention.

METHODS

A comparative study was performed in the gynaecology department of AZ Klina (July-September 2024) to evaluate two high level disinfection methods: ClO_2 foam and UV-C radiation. Microbiological samples were collected from four endocavitary probes after disinfection, with 30 samples analyzed per method. Colony-forming units (CFUs) were cultured and identified using the MALDI Biotyper®. ATP cleanliness was assessed at three disinfection stages (pre-cleaning, post-cleaning and post-disinfection) using Clean-Trace® ATP tests. Statistical analyses were applied to compare microbiological outcomes and ATP measurements. A cost-benefit analysis was conducted to compare the efficiency, safety and cost-effectiveness of ClO_2 foam and UV-C radiation, aiming to identify the most effective and sustainable solution in line with regulatory and organizational needs.

RESULTS

The comparison between ClO_2 foam and UV-C radiation as high level disinfection methods for endocavitary probes revealed no significant differences in visible or microbiological contamination post-disinfection. However, ATP measurements showed significant differences, with lower levels observed for ClO_2 foam. The conducted cost-benefit analysis showed that UV-C radiation has higher initial costs but lower variable costs over time, with minimal environmental impact. In contract, ClO_2 foam has lower startup costs but higher ongoing expenses and a greater environmental burden due to chemical waste and reliance on consumables.

DISCUSSION & CONCLUSION

Both methods effectively achieved safe probe conditions. UV-C radiation offers advantages for high-throughput settings due to automation, sustainability and consistent performance, despite higher initial costs. ClO2 foam, with its lower upfront investment, is better suited for smaller organizations or occasional use. The findings underscore the importance of pre-cleaning and effective training in ensuring optimal disinfection outcomes, regardless of the chosen method. Further large-scale studies are recommended to validate these results.

A | 3 One dose doesn't fit all: implementatie van therapeutische drug monitoring van beta-lactamantibiotica op Intensieve Zorgen van een algemeen, perifeer ziekenhuis

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ACHTERGROND & DOELSTELLING

Vanuit de antibiotherapiebeleidsgroep (ABTBG) van het A.S.Z. AV kwam de vraag naar een duidelijke richtlijn voor het toepassen van therapeutische drug monitoring (TDM) voor β-lactamantibiotica op de afdelingen Intensieve Zorgen (IZ) van het ziekenhuis. Na opstellen van deze richtlijn wensten we deze te toetsen in de praktijk door te observeren bij welke patiënten we niet-therapeutische plasmaconcentraties waarnamen en hoeveel dosisaanpassingen noodzakelijk waren voor het bereiken van de targetconcentratie. Ten slotte wensten we in kaart te brengen welke Vlaamse en Nederlandse ziekenhuizen TDM van β-lactamantibiotica toepassen en welke rol de ziekenhuisapotheker in dit proces vervult.

METHODEN

Er werd een interne richtlijn opgesteld aan de hand van een literatuuronderzoek en multidisciplinair overleg met een klinisch infectioloog en klinisch bioloog van het ziekenhuis. Vervolgens werd deze toegepast tijdens een observationele studie op de twee afdelingen Intensieve Zorgen van het A.S.Z. AV waarbij data gecollecteerd werd gedurende 6 maanden. Gelijktijdig werd een enquête over TDM van β-lactamantibiotica opgesteld en verstuurd naar de ziekenhuisapothekers van alle Vlaamse en Nederlandse ziekenhuizen.

RESULTATEN

In de richtlijn werden criteria opgenomen voor opstart van TDM, alsook de therapeutische vensters en een beleid voor dosisaanpassing. Datacollectie kon uitgevoerd worden bij 31 IZ-patiënten. Niet-therapeutische spiegels werden vastgesteld bij patiënten met hyperklaring, nierinsufficiëntie, sepsis, septische shock en obesitas. Indien dosisaanpassing mogelijk was bij niet-therapeutische plasmaconcentraties behaalden we de target doorgaans na 1 of 2 aanpassingen. De enquête werd door 22 Nederlandse en 20 Belgische ziekenhuizen ingevuld. Twaalf hiervan passen TDM van β-lactamantibiotica toe in de praktijk, waarvan 5 op regelmatige basis (≥wekelijks). De ziekenhuisapotheker is steeds betrokken bij opstart en opvolging van TDM voor β-lactamantibiotica.

The BJHP is not responsible for the scientific content/contribution. Authors have full responsibility.

DISCUSSIE & CONCLUSIE

De interne richtlijn wordt behouden met extra aandacht voor hyperklaring, mannelijke en jonge patiënten. In de toekomst zou interne implementatie van de laboanalyse met dagelijkse beschikbaarheid kunnen leiden tot een kortere turn around time (TAT) en efficiëntere bijsturing van de therapie. Hierbij geniet bepaling van de ongebonden concentratie flucloxacilline de voorkeur voor correcte interpretatie naar effectiviteit toe. Een shift in de rol van de ziekenhuisapotheker met specifieke competenties omtrent farmacokinetische/-dynamische (PK/PD) principes kan een opportuniteit vormen voor ondersteuning van andere zorgverleners, door bv. verwerving van voorschrijfbevoegdheid voor laboaanvragen of dosisaanpassingen gerelateerd aan TDM.

A | 4 Lean-optimalisatie van het facturatieproces van implantaten en hulpmiddelen: de impact op de tijdsbesteding en personeelskost

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ACHTERGROND & DOELSTELLING

De facturatie van implantaten (IMP's) en invasieve medische hulpmiddelen (IMH's) vormt een complex en tijdsintensief proces met potentieel voor optimalisatie. In het Sint-Franciscusziekenhuis (SFZ) werd vastgesteld dat de afwezigheid van standaardprocedures en een hoge afhankelijkheid van één ziekenhuisapotheker leidden tot inefficiënties en risico's voor de continuïteit. Dit onderzoek had tot doel het volledige facturatieproces te analyseren en optimaliseren met behulp van de Lean-methodologie, met bijzondere aandacht voor tijdsinvestering, personeelskosten en procesbetrouwbaarheid.

METHODEN

Een kwalitatieve 'before and after' studie werd uitgevoerd waarin het oorspronkelijke facturatieproces werd geanalyseerd aan de hand van Lean instrumenten zoals de PDCAcyclus, de 5 why's, value stream mapping en Gemba walks. Vervolgens werden processtappen geherstructureerd en geautomatiseerd waar mogelijk, met bijvoorbeeld de inzet van Microsoft Power Automate voor forfaitregistratie. Tijdsmetingen en foutfrequenties werden voor en na implementatie gemeten zodat de evolutie van het proces inzichtelijk gemaakt werd. De economische impact voor de ziekenhuisapotheek werd geëvalueerd op basis van personeelskost, uitgedrukt in besparing in fulltime equivalent (FTE) en euro's.

RESULTATEN

De implementatie van verbetermaatregelen leidde tot een totale besparing van circa 0,2 FTE per jaar, met een jaarlijkse personeelskostreductie van ongeveer €18.720. Op procesniveau werd een tijdsbesparing tot 95% gerealiseerd bij de controle van aangemaakte artikelen. De gemiddelde tijd per fout in het luik "prestatie vereist" daalde met 64%, ondanks een stijging in foutdetectie. De registratie van forfaits kon via automatisatie worden versneld met 74% tijdswinst. De optimalisatie van querybeheer resulteerde in een maandelijkse tijdswinst van 71%.

Daarnaast werd een gestandaardiseerde werkwijze ontwikkeld en gevalideerd via een dynamische SOP.

DISCUSSIE & CONCLUSIE

De toepassing van de Lean-methodologie binnen de ziekenhuisapotheek resulteerde in een tijds- en kostenbesparing en leidde tot een robuustere en overdraagbare facturatieprocedure. De integratie van IT-oplossingen en multidisciplinaire samenwerking speelde een sleutelrol in dit succes. De benadering vormt een solide basis voor verdere optimalisatie, bijvoorbeeld via de geplande implementatie van een elektronisch traceerbaarheidssysteem en dashboard. Deze aanpak kan als model dienen voor procesverbetering in andere processen in de ziekenhuisapotheek of andere ziekenhuisdiensten en biedt waardevolle inzichten voor de ziekenhuisfarmacie.

A | 5 Adherence to antithrombotic guidelines at AZ Sint-Lucas Ghent: assessing the appropriateness of prescribing and perioperative management

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BACKGROUND & AIM

Antithrombotic drugs, including anticoagulants and antiplatelets, are widely prescribed in Belgium. However, concerns about inappropriate prescribing exist, particularly for acetylsalicylic acid in primary prevention. Furthermore, 10-20% of patients taking antithrombotic drugs annually undergo surgery, where correct perioperative management is critical to minimise the bleeding and thromboembolic risk. This study aimed to (1) investigate the antiplatelet overuse and misuse in hospitalised patients and to evaluate the impact of pharmacist-led deprescribing, and (2) assess the adherence to perioperative antithrombotic guidelines in hospitalised patients undergoing elective surgery.

METHODS

First, a prospective study assessed antiplatelet prescribing appropriateness. When deviations from guidelines were identified, a pharmacist's advice was given to deprescribe inappropriate therapy in collaboration with the physician, the patient, and, when possible, the general practitioner. Additionally, a retrospective analysis compared the perioperative antithrombotic instructions in the electronic health record with hospital guidelines.

RESULTS

The first part of this study showed that for 53 of 59 patients (90%) prescriptions of antiplatelet drugs were appropriate. Three patients (5%) had intentional and three patients (5%) had unintentional guideline deviations. After the pharmacist-led deprescribing intervention, appropriateness increased to 95% ($p>0.05$). In contrast, the second part of this study revealed poor adherence to perioperative guidelines. Among 147 patients, 61 patients (42%) received inappropriate perioperative instructions: 11% were incomplete and 31% deviated from the guidelines.

DISCUSSION & CONCLUSION

Although inappropriate antiplatelet prescribing at AZ Sint-Lucas Ghent was limited and the unintentional deviations were fully resolved through pharmacist-led deprescribing interventions, the perioperative antithrombotic instructions showed frequent guideline deviations. These findings highlight the need for physician education and for raising awareness about both appropriate prescribing and appropriate perioperative instructions.

A | 6 Microbiological monitoring and validation in a new hospital cleanroom: The numbers tell the tale

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BACKGROUND & AIM

Meeting the PIC/S guidelines by the January 1, 2026 deadline presents significant challenges for hospital pharmacies. The absence of concrete methodologies in the guidelines requires pharmacies, often with limited experience and resources, to independently develop appropriate implementation strategies.

This study aims to design and implement a PIC/S-compliant, risk-based microbiological monitoring plan (MMP) for a new hospital cleanroom, alongside aseptic process simulations (APS) to validate operator practices and aseptic processes. It also assesses the effectiveness of targeted, data-driven interventions. The goal is to provide a practical, evidence-based framework for other hospital pharmacies to maintain sterility, ensure PIC/S compliance, and manage contamination risks.

METHODS

This prospective study was carried out in the AZORG hospital's new cleanroom featuring four hydrogen peroxide vapor isolators. Risk assessments and MMPs followed BioPhorum guidelines, with samples taken from grade A and D zones. Two APS protocols were developed based on preparation analysis to validate operator technique and aseptic processes. Samples were incubated and analyzed by the AZORG microbiology lab (7 days at 25°C and 35°C). Statistical analysis (Fisher's exact test and Mann-Whitney test) assessed contamination differences across intervention periods.

RESULTS

A PIC/S-compliant MMP was successfully implemented using BioPhorum's risk-based approach. Two APS protocols validated operator technique and aseptic procedures. Four data-driven interventions improved cleanroom conditions. In grade A, increased cleaning of the outgoing airlock and switching to sterile trash bags reduced growth, identifying non-sterile bags as the contamination source. In grade D, motivating personnel and reminders improved hand hygiene and reduced contamination of keyboards and phones.

DISCUSSION & CONCLUSION

This study demonstrates the successful development and implementation of a structured, risk-based, PIC/S-compliant MMP by translating the BioPhorum methodology to a hospital setting, along with a representable APS strategy. The results confirmed the effectiveness of these methods, ensuring robust product quality and patient safety. Data-driven interventions identified contamination sources and improved cleanroom conditions, addressing challenges such as staff behavior and resource constraints. The findings provide a practical, evidence-based framework for other hospital pharmacies to optimize environmental monitoring and ensure PIC/S-compliance.

A | 7 Development of a back-office clinical validation tool for parenteral nutrition prescriptions and its effect on clinical outcomes

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BACKGROUND & AIM

Parenteral nutrition (PN) is recommended for patients nutritionally at risk and unable to receive sufficient oral or enteral nutrition. As a complex and high-risk therapy, it is associated with potential prescribing errors and complications. The Check of Medication Appropriateness (CMA), a rule-based clinical decision support system (CDSS) integrated in the electronic health record (EHR), was implemented to enhance the safety and appropriateness of PN prescriptions.

The aim of this study was to evaluate the recommendation and acceptance rates of twenty PN-specific clinical rules integrated into the CMA, as well as their clinical impact on clinical outcomes. The study also compared these effects both independently and in combination with the OLIVE TREE (Offering guidance and Learning to prescribers to Initiate parenteral nutrition using a Validated Electronic decision TREE) across four study groups in a real-life hospital setting.

METHODS

A descriptive, retrospective, non-randomized, and single-center study was conducted at the University Hospitals Leuven among adult patients initiating full PN therapy during hospitalization. Patients were divided into four groups based on exposure to the CMA and/or OLIVE TREE tool, along with clinical pharmacist follow-up. Data were collected from the EHR. The primary outcome was to evaluate the twenty PN-specific rules in terms of recommendations generated and their acceptance by physicians. Secondary outcomes included assessing the impact of these rules on clinical outcomes, such as in hospital mortality, PN related complications, weight evaluation, PN duration, catheter days and length of stay.

RESULTS

The overall recommendation rate for the twenty PN-specific rules was 27.5%. The average acceptance rate across all PN rules and months (September 2024 to February 2025) was 74.4%, with variability observed between individual rules, as well as between disciplines. Hematology had the lowest acceptance rate at 67.6%. Regarding the clinical impact of the CMA tool, few significant differences were observed in clinical outcomes, with the exception of a significantly lower incidence of liver dysfunction in the CMA group (30.3% vs. 60.0%, $p = 0.015$). Additionally, there was a general difference observed across the four groups concerning liver dysfunction ($p = 0.012$), with some significant pairwise variations in fluid overload and PN duration when compared to the reference group (non-OLIVE TREE & non-CMA group).

DISCUSSION & CONCLUSION

The CMA tool generated actionable recommendations with a high overall acceptance rate, though acceptance varied across rules and disciplines. Over time, the number of alerts decreased, suggesting increased awareness and integration of CMA recommendations into the standard of care. A lower incidence of liver dysfunction was observed in the CMA group, suggesting a potential clinical benefit. However, the overall impact on clinical outcomes was limited and requires further evaluation in larger, prospective studies powered to assess the clinical value of PN-specific CDSS and associated PN related complications.

A | 8 The initiation and evaluation of a deprescribing process for chronic hypnosedatives in older adults with insomnia

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BACKGROUND & AIM
Chronic use of benzodiazepines (BZDs) and benzodiazepine-related drugs (BZDRDs) for insomnia is a growing concern, particularly among older adults with polypharmacy. As prolonged use is associated with adverse outcomes, deprescribing BZD(RD)s may improve safety and optimise pharmacotherapy.

Primary objectives of this study were to 1) analyse consumption trends of BZD(RD)s, and trazodone in Ghent University Hospital, and 2) initiate and evaluate a deprescribing process for sleep medication in older adults in collaboration with the general practitioners and community pharmacists. Secondary objectives were to 1) assess the impact of tapering on sleep quality, falls, and readmission, 2) evaluate barriers to adherence to the tapering scheme, and 3) determine the involvement of sleep medication as potentially inappropriate medications (PIMs).

METHODS
A two part study was conducted: First, an annual (2013-2023) and a daily (2024) consumption analysis were performed. Second, an interventional study enrolled older patients with chronic use of sleep medication into an individualised tapering program. Follow-up after four and twelve weeks assessed adherence and secondary endpoints. PIM prevalence was analysed using the Drug-Drug Interactions (DDI) consensus list, the STOPPFall, and GheOP3S tool.

RESULTS
The highest prevalence was found for BZD with a peak in 2020. Lorazepam, midazolam, diazepam, alprazolam and lormetazepam were the five most prescribed BZDs. Of the 2860 screened patients, 22.2% used at least one BZD(RD) or trazodone, and 30 patients (4.7%) were included. Of these, 22.2% and 11.5% followed the tapering scheme at T2 and T3, respectively. Follow-up identified reflective motivation (62.9%) and social opportunity (22.8%) as main barriers to adherence to the tapering scheme. Sleep medication contributed to 38.6% of the DDIs, 24.2% of the STOPPFall criteria, and 24.3% of the GheOP3S criteria.

DISCUSSION & CONCLUSION
This study highlights the complexity of deprescribing sleep medication in older adults and underscores the need for tailored, multidisciplinary approaches. Future research should focus on larger, multidisciplinary studies to generalise these preliminary findings and better assess the clinical outcomes of deprescribing interventions.

A | 9 Evaluatie, optimalisatie en implementatie van clinical decision rules in het kader van het correct gebruik van anticoagulantia in het Ziekenhuis Oost-Limburg Genk

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ACHTERGROND & DOELSTELLING
Anticoagulantia worden frequent gebruikt bij gehospitaliseerde patiënten en het gebruik van deze geneesmiddelen is niet steeds zonder risico's. Het doel van deze studie was om het correct gebruik van anticoagulantia te stimuleren aan de hand van het gebruik van clinical decision rules (CDRs) en om dit proces te optimaliseren.

METHODEN
Om dit doel te bereiken werd een evaluatie en optimalisatie uitgevoerd naar rule effectiveness (RE) en acceptatiegraad van de CDRs rond anticoagulantia die in gebruik zijn in het Ziekenhuis Oost-Limburg Genk, namelijk doseringscontrole van directe orale anticoagulantia (DOACs) en enoxaparine, controle op gelijktijdig gebruik van low-molecular-weight heparins (LMWHs) en DOACs en controle international normalized ratio (INR) bij gebruik van vitamine K-antagonisten (VKAs). Vóór (1 november 2023 tot en met 31 maart 2024) en na optimalisatie (1 november 2024 tot en met 31 maart 2025) werd een retrospectieve analyse uitgevoerd naar aantal potentially inappropriate prescriptions (PIPs) die door de CDRs werden gesignaleerd, aantal adviezen die door de apotheek werden gegeven en aantal aanvaarde adviezen. Daarnaast werd een retrospectieve analyse uitgevoerd van de niet-aanvaarde adviezen om de redenen voor het niet aanvaarden in kaart te brengen. Ten slotte werd een uniformiteitstest opgesteld en ingevuld door negen klinische apothekers om uniformiteit van afhandeling van de casussen na te gaan.

RESULTATEN
In de eerste meting werd er 178 keer een advies gegeven door de apotheker naar de arts toe op een totaal van 895 PIPs (RE van 19,9%). In de tweede meting werd een verbetering opgemerkt naar een RE van 27,3% (198 adviezen op 724 PIPs). Voornamelijk de CDRs rond doseringscontrole van DOACs kenden een significante verbetering op vlak van RE ($p = 0{,}0003$; RR 1,65 (99,6% CI 1,12 – 2,42)). In acceptatiegraad werden geen significante verschillen opgemerkt tussen de eerste en tweede meting. Uniformiteit van afhandeling door verschillende apothekers werd in zekere mate aangetoond (Fleiss' Kappa score 0,62).

DISCUSSIE & CONCLUSIE
In deze studie werd een efficiënter systeem bekomen voor het opsporen van PIPs met betrekking tot anticoagulantia met een hogere RE in vergelijking met het systeem vóór optimalisatie. Gebruik van een dergelijk systeem biedt een ondersteunende rol in het voorkomen van medicatiefouten met anticoagulantia.

The BJHP is not responsible for the scientific content/contribution. Authors have full responsibility.

A | 10 Enhancing the efficacy of the medication discharge protocol within AZORG: the impact of pharmacist involvement

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BACKGROUND & AIM

Medication-related errors frequently occur during the hospital discharge process. Medication reconciliation is a key strategy to minimize these errors. Although various guidelines and recommendations exist, the implementation of a standardized pharmaceutical discharge protocol remains a challenge in many hospitals.

The study aimed to evaluate the impact of a standardized pharmaceutical discharge protocol, including medication reconciliation, at AZORG in Aalst, Belgium. The study investigated (1) the protocol's impact on the number and causes of medication discrepancies and ambiguities at discharge, and (2) other areas in which the hospital pharmacist could contribute added value during the discharge process.

METHODS

The study was conducted in three phases. In the first phase, the existing pharmaceutical discharge process was assessed. This included observational research across various departments and a questionnaire distributed to physicians and nurses involved in the discharge process. In the second phase, the optimization phase, the findings from the first phase were analysed to develop an improved, standardized discharge protocol with the additional support of a pharmacist. In the third phase, the optimized protocol was implemented in a pilot ward. Subsequently, the outcomes were compared to the baseline data to assess whether the new protocol led to significant improvements.

RESULTS

At baseline, 67 patients were included from two surgical and two non-surgical wards. During the post-optimization measurement, which involved one non-surgical ward, 80 patients were included. Following the implementation of the optimized protocol in phase three, a reduction in the number of discrepancies was observed. This decrease showed statistical significance in the overall comparison ($p = 0.040$) and showed a trend toward improvement within the pilot group ($p = 0.051$). As part of this phase, the pharmacist carried out an additional intervention that led to a highly statistically significant reduction in discrepancies ($p < 0.001$). Regarding ambiguities, a statistically significant decrease was only observed after the pharmacist intervention ($p < 0.001$). The pharmacist also added value by ensuring that changes in therapy were clearly documented on the medication schedule. At baseline, only 58.7% of patients overall, and 68.8% within the pilot group, had their modified therapy documented. After optimization, this improved to 71.4%, although this increase was not statistically significant in either the overall comparison ($p = 0.166$) or within the pilot group ($p = 0.833$). Finally, the pharmacist facilitated the return of medication, with 66.7% of the medications being directly returned to the service stock.

DISCUSSION & CONCLUSION

A standardized pharmaceutical discharge protocol combined with support from a pharmacist can add value within the medication discharge process.

A | 11 Belgian hospital pharmacists stepping into prescribing roles: an exploration of Belgian stakeholder support and international prescribing practices

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BACKGROUND & AIM

An expanding aging population has led to increasingly complex healthcare needs, requiring multidisciplinary collaboration and redistribution of care responsibilities. In several countries, non-medical healthcare professionals, including pharmacists, have been granted prescribing rights to support physicians in their work.

This study examines the perspectives and level of support among Belgian hospital pharmacists and medical specialists regarding the prescriptive authority for hospital pharmacists and provides an examination of international prescribing practices.

METHODS

To assess its potential in Belgium, a multi-step approach was undertaken including a systematic review, a survey distributed to hospital pharmacists and medical specialists, and semi-structured interviews with international experts.

RESULTS

The systematic review showed that investing in pharmacist prescribers is associated with positive impacts across various outcomes. In Belgium, 90.7% of the pharmacist respondents (N=312) supported a collaborative prescribing model based on an agreement or cooperation with an independent prescriber. Support decreased as the level of autonomy in pharmacist prescribing increased. A similar trend was observed among medical specialists, with 68.0% (n=165) supporting the collaborative prescribing model. Several barriers need to be taken into account before implementation such as insufficient training, uncertainty, and liability mentioned by the hospital pharmacists and unclear delineation of responsibilities most frequently mentioned as a key barrier by physicians.

DISCUSSION & CONCLUSION

This study explored preferences for pharmacist prescribing models in Belgium, revealing a clear favorability toward a collaborative approach with independent prescribers. Key barriers were identified, highlighting the necessity of training to ensure successful implementation. Overall, this research opens a dialogue on the potential for pharmacist prescribing in Belgium and offers a foundation for future developments in this field.

A | 12 The prevalence of potential drug interactions with parenteral chemotherapy and their clinical relevance. A prospective study in a large peripheral hospital, in Belgium

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BACKGROUND & AIM

Potential drug interactions (PDIs) are common in healthcare, so the combination of different drugs requires vigilance. Some patient groups, such as cancer patients, are more likely to experience PDIs and are often more sensitive to their effects. This study aimed to visualize the prevalence of PDIs between parenteral chemotherapy and home medication in a large peripheral hospital in Belgium, and assessed clinical relevance of these PDIs.

METHODS

A prospective observational cross-sectional study was carried out. A PDI check was performed in seven databases for 70 patients starting parenteral chemotherapy. Afterwards, the clinical relevance of each PDI and its management has been assessed individually by six hospital pharmacists using the validated Clinical, Economic and Organizational (CLEO) tool. Kappa statistics was used to test interrater reliability.

RESULTS

50 patients had at least 1 PDI (71%) between their home medication and chemotherapy. Out of 140 PDIs with a parenteral chemotherapeutic drug, 83 were unique (62 pharmacodynamic, 21 pharmacokinetic). Among these, 43 PDIs were classified as major, 16 as moderate and 24 as mild. The mean CLEO score of each PDI showed 46 PDIs scored ≥2C of which one PDI scoring >3C. None of the remaining 37 PDIs had a mean score below 1. Over 40 percent of all unique PDIs (34/83) were assessed as clinically relevant (i.e. ≥2C) by all six pharmacists. The weighted Fleiss' kappa coefficient was 0,374 (95% CI: 0,302-0,445), indicating fair agreement.

DISCUSSION & CONCLUSION

This study shows the importance of a PDI check in cancer patients. The hospital pharmacist can play a valuable role in the patient's course of treatment. Multidisciplinary cooperation is necessary to identify and fulfill needs in the future.

A | 13 Optimization of Medication Reconciliation at Preadmission Consultation

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BACKGROUND & AIM

At hospital admission, medication discrepancies are common and can potentially harm patients when clinically significant. The aim of this study was to evaluate the effect of pharmacist-led interventions to minimize clinically significant medication discrepancies in a controlled setting like the preadmission consultation.

METHODS

A prospective, before-after interventional study was conducted. Included patients were Dutch-speaking with polypharmacy who had a planned overnight stay. Teleconsultations and minors under 18 were excluded. The clinical significance of the medication discrepancies between the medication lists obtained by the hospital pharmacist (HP) trainee and the nurse was evaluated. The main outcome was the difference in the proportion of clinically significant medication discrepancies.

RESULTS

Seventy-four patients were included in the study (pre-intervention n=38, post-intervention n=36). The discrepancy ratio, the ratio of medication discrepancies to the total number of medications, was significantly reduced (34.6% vs. 27.6%, p=0.0467), even though the median number of discrepancies per patient remained unchanged. The most common type of discrepancy in both phases was drug omission (39.8% vs. 38.0%), discrepancies involving dose modification increased (9.4% vs. 21.7%, p=0.0103). Additionally, a decrease in analgesic-related discrepancies was seen (10.9% vs. 3.3%, p=0.0354). The median time of medication reconciliation by the HP trainee was 15 to 16 minutes, whereas the nurse completed it in 3 minutes (p<0.001). There was no significant difference in clinically significant discrepancies (9.1% vs. 5.5%, p=0.0951).

DISCUSSION & CONCLUSION

This study showed that pharmacist-led interventions can lower the discrepancy ratio, but did not have an impact on lowering the proportion of clinically significant medication discrepancies. While medication reconciliation by an HP trainee provides additional added value, it is considerably more time-consuming.

The BJHP is not responsible for the scientific content/contribution. Authors have full responsibility.

A | 14 Stralende Zorg: Onderzoek naar een gefaseerde implementatiestrategie richting PIC/S conformiteit voor de bereiding van radiofarmaca op de dienst Nucleaire Geneeskunde in een groot perifeer ziekenhuis

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ACHTERGROND & DOELSTELLING

Het Koninklijk Besluit (KB) van 30 september 2020 heeft een belangrijke impact op de organisatie van de ziekenhuisapotheek. Eén van de grootste veranderingen is dat vanaf 1 januari 2026 alle apotheekbereidingen, inclusief radiofarmaceutische bereidingen, moeten voldoen aan de Pharmaceutical Inspection Co-operation Scheme (PIC/S) PE 010-4 richtlijnen. Ziekenhuizen dienen zo ook het bereidingsproces van radiofarmaca kritisch onder de loep te nemen. Dit masterproefonderzoek stelt een gefaseerde en efficiënte implementatiestrategie voor richting PIC/S conformiteit, met aandacht voor de praktische uitdagingen, prioritaire investeringen en haalbare kwaliteitsverbeteringen.

METHODEN

In een eerste fase werd een uitgebreide gap-analyse uitgevoerd om eventuele discrepanties tussen de regelgeving en huidige praktijk te identificeren. Aansluitend volgde een Healthcare Failure Mode and Effects Analysis (HFMEA)-risicoanalyse waarbij verbeteracties werden opgesteld voor de grootste risico's die vervolgens gefaseerd geïmplementeerd werden. Om enkele PIC/S standaarden objectief te kunnen beoordelen, werden daarnaast metingen uitgevoerd op de dienst nucleaire geneeskunde.

RESULTATEN

De gap-analyse identificeerde bij 215 normen (67,19%) een discrepantie ten opzichte van de wetgeving. In de HFMEA-risicoanalyse werd 56,15% van de risico's als aanvaardbaar beschouwd (RPN-score van 1, 2 of 3). Voor de overige risico's werden verbeteracties geformuleerd. Slechts 1 van de 13 medewerkers behaalde een score van 80% of meer op de kennistest. Alle operatoren slaagden voor de gecombineerde procesvalidatie en mediafilltest terwijl elke fingerprinttest daarentegen microbiële groei vertoonde. De fluoresceïnetest was bij 4 van de 10 operatoren geslaagd. De documentatie was voor 71,75% van de bereidingen volledig en bij 33,44% van de bereidingen werd een dosisdiscrepantie vastgesteld.

DISCUSSIE & CONCLUSIE

Onvolledige documentatie, potentiële contaminatie van de bereiding en onvoldoende opleiding en training werden geïdentificeerd als de belangrijkste risico's na uitvoeren van de gap-analyse en HFMEA-risicoanalyse. De resultaten van de metingen bevestigden deze risico's. Prioritaire verbeteracties, zoals de verbouwing van het hotlab en het opstellen van een kwaliteitshandboek, werden doorgevoerd. Een nauwere samenwerking met de ziekenhuisapotheek bleek essentieel voor een stapsgewijze implementatie richting PIC/S conformiteit.

A | 15 Veilig omgaan met cytostatica: evaluatie en inperken van het risico op beroepsmatige blootstelling in AZ Sint-Lucas Gent

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ACHTERGROND & DOELSTELLING

Beroepsmatige blootstelling aan cytostatica gaat gepaard met gezondheidsrisico's. Ondanks de toename aan risicobeheersmaatregelen kan blootstelling niet volledig worden vermeden. De opkomst van talrijke – al dan niet bindende – richtlijnen omtrent veilig omgaan met cytostatica, waaronder een uitgebreid Europees richtsnoer in 2023, getuigt van een toenemende belangstelling voor de bescherming van gezondheidsmedewerkers. Deze studie had tot doel de blootstellingsrisico's in AZ Sint-Lucas Gent in kaart te brengen en via gerichte risicobeheersmaatregelen een veiligere werkomgeving te creëren.

METHODEN

Enerzijds werden veegproeven uitgevoerd ter monitoring van de omgevingscontaminatie in de cleanroomomgeving en op de verblijfsafdeling en het dagziekenhuis oncologie. Hiervoor werd het BD™ HD Check Systeem aangewend, een lateral flow immunoassay (LFIA)-methode voor detectie van cyclofosfamide (CYC) en doxorubicine (DOX). Anderzijds werden de blootstellingsrisico's doorheen het traject van cytostatica geïdentificeerd en beoordeeld via Failure Mode and Effect Analysis (FMEA).

RESULTATEN

De 98 veegproefresultaten verspreid over 39 locaties toonden een goede beheersing van de omgevingscontaminatie in de cleanroomomgeving. Op het dagziekenhuis en de verblijfsafdeling oncologie was contaminatie vooral gerelateerd aan patiëntexcreta, waarbij CYC-contaminatie op de armleuningen van behandelingszetels hardnekkig bleek. De risicoanalyse identificeerde 66 blootstellingsrisico's waarvan 34,8% 'matige' risico's, wat na de implementatie van risicobeheersmaatregelen werd teruggebracht tot 4,5%.

DISCUSSIE & CONCLUSIE

De veegproefresultaten gaven inzicht in de omvang en verspreiding van omgevingscontaminatie, die in lijn was met eerdere studies. De FMEA-methode bleek een waardevolle tool om de blootstellingsrisico's ziekenhuisbreed te identificeren en in te perken. Regelmatige monitoring van de omgevingscontaminatie en herbeoordeling van de risico's blijven essentieel binnen een effectieve risicobeheersstrategie, waarbij de ziekenhuisapotheker een cruciale rol speelt.

A | 16 The hospital pharmacist as a prescriber in Belgium: exploring back office possibilities

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BACKGROUND & AIM

Pharmacist prescribing has been successfully implemented in several countries but remains legally unestablished in Belgium. This dissertation contributes to a broader research initiative, focusing on pharmacist prescribing within back-office settings, whereas related research by peers address front-office settings and pharmacogenomics (PGx)/therapeutic drug monitoring (TDM).

METHODS

A systematic review was performed based on the PICO framework, screening articles for inclusion first on title and abstract, followed by full-text review using Rayyan. Risk of bias was assessed for each study. Secondly, an online survey assessing hospital pharmacists' perceptions regarding pharmacist prescribing was adapted from a validated international questionnaire, and distributed to hospital pharmacists (n = 1377) via the Hospital Pharmacist Associations and to medical specialists via email. Descriptive statistics were used for data analysis. Additionally, semi-structured interviews were conducted with six international hospital pharmacists, both online and in-person. These interviews were recorded, transcribed, and analyzed using QUALGOL for coding and Nvivo for thematic analysis.

RESULTS

Five studies were included in the systematic review. Survey results revealed that hospital pharmacists (90.7%, n=283/312) and physicians (67.9%, n=112/165) favor a collaborative prescribing model. The interviews identified five key themes: benefits and limitations, practical implementation, enabling and constraining factors, prescribing education, and suggestions for implementation. Overall, pharmacist prescribing is positively regarded by both pharmacists and physicians.

DISCUSSION & CONCLUSION

While there is professional agreement on the value of pharmacist prescribing models, the implementation of back-office prescribing, especially in inpatient settings, may have limited applicability. The findings of this dissertation offer a crucial first step towards implementation and legal recognition of pharmacist prescribing in Belgium.

A | 17 Voor toediening gereedmaken van industriële TPN-mengsels door apotheekassistenten op de verpleegafdeling met behulp van een mobiele werkkar: een exploratief onderzoek naar praktische uitvoerbaarheid, haalbaarheid en draagvlak binnen het UZ Antwerpen

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ACHTERGROND & DOELSTELLING

Dit onderzoek had als doel de praktische uitvoerbaarheid, de haalbaarheid en het draagvlak te beoordelen van het voor toediening gereedmaken (VTGM) van industriële TPN-mengsels door apotheekassistenten op de verpleegafdeling met behulp van een mobiele werkkar binnen het UZ Antwerpen, hierna het VTGM-proces genoemd.

METHODEN

Het onderzoek omvatte een gefaseerde, multimethodische benadering. In de eerste fase werden semigestructureerde interviews afgenomen bij vijftien verpleegkundigen, geselecteerd via purposive sampling, werkzaam op de vijf afdelingen in het UZA met het hoogste gemiddelde aantal TPN-patiënten per dag. De interviews werden geanalyseerd via een thematische analyse, volgens een inductieve benadering. In de tweede fase voerden vier apotheekassistenten het VTGM-proces uit. De doorlooptijd, de mogelijkheid tot cyclische toediening, het aantal onnodig voor toediening gereedgemaakte TPN-mengsels binnen de huidige werking in de cleanroom en de ervaringen van de apotheekassistenten werden systematisch geregistreerd en geëvalueerd.

RESULTATEN

Uit de interviews kwamen vijf hoofdthema's naar voren: praktische organisatie, perceptie ten opzichte van de taakuitbreiding, kwaliteit van de zorg, financiële implicaties en samenwerking. Verpleegkundigen benadrukten het gebrek aan ruimte in de verpleegposten en het belang van een overschakeling naar cyclische toediening van TPN. Tijdens de testfase nam het VTGM-proces gemiddeld 8 minuten en 20 seconden per TPN in beslag. Volgens de nutritieverpleegkundige kon 78% van de TPN-mengsels cyclisch worden toegediend. Apotheekassistenten stonden positief tegenover de taakuitbreiding, mits er voldoende personeel beschikbaar is en er enkele ergonomische aanpassingen gebeuren. Tot slot bleek het VTGM-proces ongeveer 7,5 keer goedkoper dan bereiding in een PIC/S-conforme cleanroom. Bovendien bleek dat met deze werkwijze 94% van de TPN-mengsels die in de huidige cleanroomwerking onnodig voor toediening gereed werden gemaakt, kon worden vermeden.

DISCUSSIE & CONCLUSIE

Het VTGM-proces lijkt praktisch uitvoerbaar en haalbaar, op voorwaarde dat er voldoende aandacht is voor praktische uitvoerbaarheid, ergonomie, duidelijke taakafbakening, goede ondersteuning en voldoende personeelscapaciteit. Het draagvlak voor deze werkwijze hangt af van de mate waarin aan deze voorwaarden wordt voldaan.

A | 18 Mind the gap: comparing risk-based versus system audits on their effectiveness in identifying PIC/s nonconformities

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BACKGROUND & AIM
Internal audits play a key role in ensuring compliance and continuous improvement within the hospital pharmacy compounding unit. Risk-based internal audits (RBIA) focus on high-risk areas to improve efficiency and resource allocation. We aimed to implement and evaluate an RBIA program to assess its effectiveness in identifying both total and severe nonconformities, defined as critical or major, compared to a compliance-based system audit (SA).

METHODS
Compounding processes subject to RBIA were selected through risk analysis with an APB (Algemene Pharmaceutische Bond) validated algorithm. We conducted a prospective comparative analysis of audit findings from multiple RBIAs and SAs. A multicentre expert Delphi panel classified the nonconform findings by severity, which served as a proxy of audit effectiveness.

RESULTS
Eight audits were conducted by 4 RBIA and SA auditors. They both audited a median of 75% out of the total 222 standard. RBIA identified significantly more nonconformities than SA, especially those scored critical ($p = .049$) and major ($p = .021$).

DISCUSSION & CONCLUSION
This pioneering study demonstrates that risk-based auditing, guided by algorithm-driven risk analysis, is more effective at identifying severe nonconformities within the same timeframe. This results in an increase in regulatory compliance and quality of the compounding operations and its products.

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