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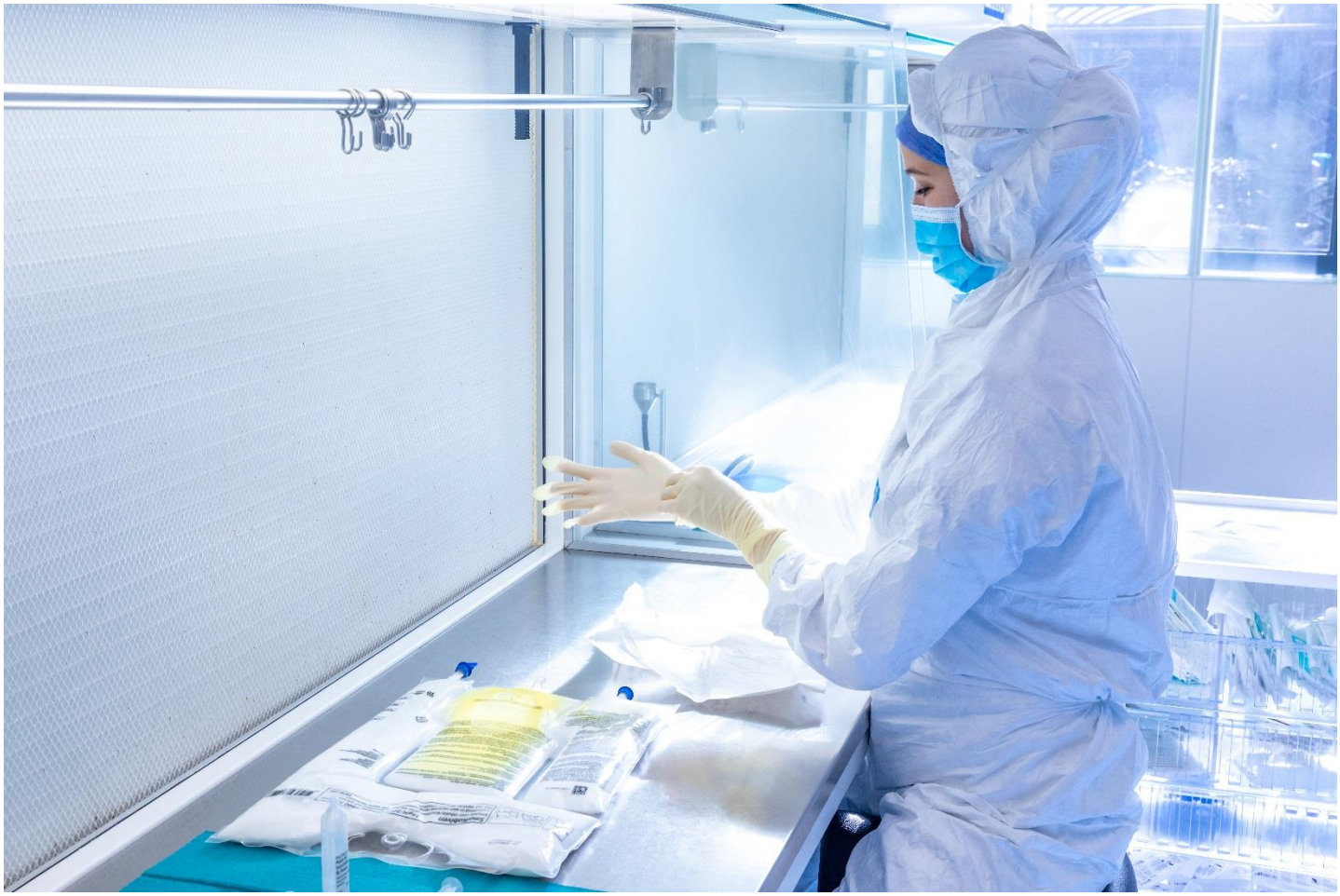

VZA
Vlaamse Vereniging van Ziekenhuisapothekers

# TABLE OF CONTENTS

Vlaamse Vereniging van Ziekenhuisapothekers

**Hospital Pharmacists' Day 2019**
**February 5, 2019**
**San Marco Village, Schelle, Belgium**



This publication contains the abstracts of oral and poster presentations in the field of hospital pharmacy presented at the 'Hospital Pharmacists' Day' held by the Flemish Association of Hospital Pharmacists in Schelle (Belgium) on February 5, 2019.

For this event, sixteen abstracts were submitted. Four abstracts were accepted for both oral and poster presentation. Sixteen abstracts were accepted for poster presentation. This publication contains six abstracts for which the BJHP received approval for publication in the BJHP by the submitting author.

The best two posters presentations will be awarded the 'Amgen Scientific Award for Hospital Pharmacists'.

## ORAL AND POSTER PRESENTATIONS



## POSTER PRESENTATIONS

# ORAL AND POSTER PRESENTATIONS

## OP 1 | DOAC therapy in real life: fixed dose, advice, effect?

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**ACHTERGROND EN DOELSTELLING**

Initiële analyse van de ordervalidatie-lijst in AZ Sint-Jan Brugge-Oostende AV gaf aan dat farmaceutische adviezen met betrekking tot Directe Orale Anticoagulantia (DOAC-adviezen) frequent voorkomen[1]. Het objectief van deze retrospectieve studie is (i) de aard van de DOAC-adviezen in kaart brengen en (ii) de DOAC-adviezen omtrent geneesmiddeleninteracties te analyseren.

**METHODEN**

Uit het elektronische patiëntendossier werden alle farmaceutische nota's (mei–november 2018) verzameld en DOAC-adviezen geanalyseerd (Microsoft® Excel, versie 2013). De DOAC-adviezen werden onderverdeeld in vier categorieën. 1: dosisaanpassingen op basis van EHRA (European Heart Rhythm Association)-criteria[2]: leeftijd, gewicht en nierfunctie; 2: dosisaanpassing op basis van EHRA-criteria[2] met daarnaast geneesmiddeleninteractie(s); 3: geneesmiddeleninteractie(s); 4: dubbeltherapie met nadroparine. De categorieën waarbij een geneesmiddeleninteractie van toepassing was, werden verder onderverdeeld per type verleend advies (A: informatief advies; B: dosisaanpassing; C: contra-indicatie). Bij de interpretatie van geneesmiddeleninteracties werden EHRA-guide[2] en Stockley's Interactions Checker[3] geraadpleegd.

**RESULTATEN**

497 nota's werden geregistreerd waarvan 126 DOAC-nota's (25%) en 128 DOAC-adviezen. In 67%(n=86) van de adviezen werd een dosisaanpassing geadviseerd op basis van EHRA-criteria[2] [cat.1: 76(59%) - cat.2: 10(8%)]. 30%(n=38) van de adviezen betrof een pure geneesmiddeleninteractie (cat.3) en 3%(n=4) dubbeltherapie (cat.4). Het advies bij een geneesmiddeleninteractie (38%; cat.2-cat.3) leidde in twee van de 51 interacties tot een dosisaanpassing en zeven keer tot een wijziging van therapie omwille van contra-indicatie. In 42 casussen kon geen concreet advies gegeven worden. Tweeëntwintig van de 51 interacties vertoonden discrepanties tussen de gebruikte bronnen.

**DISCUSSIE**

Bij meer dan 1/3de van de adviezen met DOAC's kon geen concreet advies aan de arts worden gegeven. Dit is vooral het geval voor adviezen rond geneesmiddeleninteracties. Bij dergelijke therapieën zou plasmaconcentratiemeting van DOAC's een meerwaarde kunnen bieden om supra- en subtherapeutische levels te identificeren. Hoewel er momenteel weinig evidentie is om DOAC-concentraties routinematig te bepalen, is het opportuun om deze toepassing voor bepaalde patiënten verder te onderzoeken[4].

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## OP 2 | 9 quick-wins in the antimicrobial arena within the reach of every hospital

Vantrappen Astrid[1], Paque Caroline[1], Dewez Patricia[1]

[1] *Pharmacy Department, Europe Hospitals, Brussels, Belgium*

**BACKGROUND & AIMS**

Europe Hospitals is a general hospital with 720 beds. The Antimicrobial Management Team (AMT) counts three pharmacists among its members. Inappropriate use of antimicrobials can cause an increase in resistant pathogens and influence patient morbidity and mortality. Therefore, the AMT and pharmacy took nine quick-win initiatives in 2017-2018. Those initiatives did not focus on highly complicated issues but on "low-hanging fruit" with three objectives: 1) improve antimicrobial use, reduce the emergence of resistant pathogens and optimize the clinical outcome, 2) improve caregiver productivity, and 3) control hospital costs. Studies have shown that such an approach can be highly successful and lead to significant financial savings.[(1,2)]

**METHODS**

Potential quick-wins were identified through antimicrobial stewardship literature, a risk analysis of antimicrobial use, and the categorization of initiatives in two dimensions: benefits generated (i.e., patient safety and medication efficacy, higher caregiver productivity and/or lower hospital costs) and targeted caregiver groups (i.e., physician, nursing and/or pharmacy).

**RESULTS**

Following 9 initiatives were implemented: launch of IV-PO switch; antibiotic awareness campaign; development of technical information poster and medical order sets for administration of intravenous antimicrobials ; same for antibiotic syrups; development of guidelines for surgical prophylaxis; development of clinical validation sheets for pharmacists; obligation of defining therapy end-date and indication; easy access to BAPCOC guidelines; withdrawal of all antimicrobials from the medication distribution robot.

**DISCUSSION & CONCLUSION**

Antimicrobial stewardship is an extremely important hospital subject. Even with limited resources, impactful improvements are attainable by providing practical tools to physicians, nursing and pharmacy. Further initiatives will be taken in the following years.

**BRONNEN**

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## OP 3 | Development of a belgian registration system for clinical pharmaceutical interventions: a survey among hospital pharmacists

Verheyen Silke[1], Wuyts Stephanie[1], Collier Hilde[1], Cortoos Pieter-Jan[1].

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**BACKGROUND**

During the last decade, clinical pharmacy has become a major activity for Belgian hospital pharmacists. However, a national system for standardized registration of drug related problems (DRPs) and clinical pharmacy interventions (CPIs) is still lacking, thus complicating input in patient files, feedback to hospital management and government, and benchmarking.

Purpose

1) To identify current CPI registration practices amongst Belgian clinical pharmacists.

2) To determine essential features of a future CPI registration system.

**MATERIAL AND METHODS**

After literature review of CPI registration systems, a survey was developed (Dutch and French) and distributed to all 92 Belgian hospital pharmacies. Firstly, respondents were asked which clinical activities they performed, followed by which items they registered for each activity, and if they perceived this as useful. Finally, respondents answered general questions about clinical activity registration and had to assess specific characteristics of an optimal registration system.

**RESULTS**

Sixty-six pharmacists, working in 39 different hospitals, completed the survey. Following items are perceived most useful to register: initiator, executor, patient (characteristics), drug name, DRP, CPI, detailed description of the advice, sources and physician's acceptance. Specifically for medication reconciliation, amount and type of discrepancies are perceived useful. Only five respondents use a validated registration system for DRPs and CPIs. 70% of the respondents preferred a structure in which the DRP is registered first, followed by the performed intervention. 72% would like to register more than one DRP for one intervention and 65% would like to register more than one intervention for a detected DRP. The most important demands are: easily integrated in electronic patient record, easily extractable data, well-ordered, short duration and intuitive.

**CONCLUSION**

Indispensable characteristics of a DRP-CPI registration system were identified. Practicality and time investment were perceived most important. These findings will be used in the development of a Belgian CPI registration system.

# POSTER PRESENTATIONS

## PP 1 | Implementation of ambulatory elastomeric pumps with flucloxacillin in an opat service in a belgian university hospital

De Nocker Phebe[1], Deryckere Sabine[1], Debrauwere Mieke[2], Commeyne Sabrina[1], Vandenbroucke Johan[1], Buyle Franky[1]

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**BACKGROUND & AIM**

Some antimicrobials (e.g. flucloxacillin) need multiple doses per day to maintain adequate plasma concentrations which make them unsuitable for most Outpatient Parenteral Antimicrobial Therapy (OPAT) services. Elastomeric pumps are a good alternative for these antimicrobials because they provide a continuous infusion. UZ Ghent, a Belgian university hospital with 1061 beds, already practices OPAT for 15 years but has no experience with continuous infusion in their OPAT service. The aim of this project is to implement elastomeric pumps with flucloxacillin in the existing OPAT service.

**METHODS**

Literature with a focus on stability of flucloxacillin in elastomeric pumps and information about different types of elastomeric pumps were collected and reviewed by an expert group (5 hospital pharmacists, 1 specialized nurse). Preparation protocols were made based on the storage condition. All elastomeric pumps (Infusor LV10®, Baxter) were filled in the hospital pharmacy. The weight of the pumps before and after administration were determined to control the outflow. Information brochures were made for the patient and community nurse. Afterwards the patient was asked for feedback through an interview.

**RESULTS**

The pumps were made 2 times a week in the hospital pharmacy, based on a storage condition of 4 days at 2-8°C and 1 day at room temperature. An additional production cost was charged for the hospital pharmacy based preparation. The total price for a 7 day-treatment with flucloxacillin in elastomeric pumps is €732,92. The price charged to the patient depends on his health and/or hospitalization insurance. 2,45 % (± 0,22%) of the total dosage of flucloxacillin remained in the elastomeric pump reservoir. The patient's feedback was positive.

**DISCUSSION & CONCLUSION**

A longer storage condition for flucloxacillin can be obtained by changing the production process, but also leads to a higher production cost and production time. Financial support and a fixed reimbursement need further investigation to generate a fair treatment option for the patient.

## PP 2 | Antibacterial prophylaxis with fluoroquinolones in children with acute myeloid leukemia: impact on viridans group streptococci

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**BACKGROUND/OBJECTIVES**

Infections remain an important cause of morbidity and mortality in children with acute myeloid leukemia (AML).
In recent years, ciprofloxacin prophylaxis was introduced in our hospital to reduce the risk of infectious complications. Recent reports however, describe breakthroughs of Viridans Group Streptococci (VGS) bacteremia in children with AML receiving fluoroquinolone (FQ) prophylaxis.
The aim of this study is to investigate the impact of FQ-prophylaxis on bloodstream infections in terms of prevalence and type of isolated species in a pediatric AML population who received FQ prophylaxis and those who did not.

**DESIGN/METHODS**

Retrospective study in pediatric patients hospitalized in the period 11/2009-4/2017 and treated according to subsequent international AML protocols. Pharmaceutical and laboratory records were analyzed to determine the use of FQs (ciprofloxacin) and to identify positive hemocultures (HCs). Statistical analysis was performed by Chi square tests.

**RESULTS**

The study included 26 patients with de novo or relapse AML, representing 195 episodes of hospitalization. FQ prophylaxis was administered in 109/195 episodes (55.9%). HCs were positive in 17 episodes (17/195; 8.7%) and in 13 of these episodes (13/17; 76.5%) FQ prophylaxis was used.
When looking at the species isolated from the 17 HC-positive episodes, a mix of VGS/non-VGS (1/4) or a non-VGS species (3/4) was identified in the patients who did not receive prophylaxis. The 13 HC-positive episodes with FQ (13/17; 76.5%) revealed 11/13 (84.6%) VGS or a mix of VGS/non-VGS and 2/13 (15.4%) non-VGS species ($p = 0.022$).

**CONCLUSION**

The use of FQ prophylaxis was associated with a significantly higher number of VGS positive HCs. This prompted us to stop FQ prophylaxis in our pediatric patients. A larger retrospective study to validate these findings is currently ongoing.

## PP 3 | Development and implementation of a prescription validation tool for anti-infectives

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**BACKGROUND & AIM**

In Western hospitals antibiotics are prescribed for 30-50% of all hospitalized patients, whereof 20-50% is unnecessary or

inappropriate.[1,2] Drug-related problems (DRPs) due to potentially inappropriate prescribing can be detected by the pharmacist during prescription validation. The major aim of this study was to develop and implement a prescription validation list to capture DRPs with anti-infectives. An additional goal was to investigate whether the recommendations had an economic impact.

**METHODS**

A prospective, monocentric study within a Belgian general hospital (AZ Damiaan, Ostend) was performed. The developed lists were validated via the Delphi method by computing the Content Validity Index (CVI) based on ratings from a multidisciplinary team consisted of four physicians, two microbiologists and two hospital pharmacists.[3,4]

During one month, anti-infective prescriptions on wards were evaluated with the prescription validation list to detect DRPs.[5]

A pre-post implementation study was performed to investigate the economic impact of the recommendations.

**RESULTS**

The 19 criteria that did not achieve the required minimum agreement (9.9%) were eliminated or revised. The average scale-CVI (S-CVI/Ave) was 0.84 for the antibiotic and 0.81 for the antimycotic list.

During one month, 620 prescriptions were evaluated of which 149 (24.0%) contained at least one DRP (175 DRPs in total). The predominant DRPs were inappropriate administration moment (28.6%), inadequate dosing (24.6%) and drug interactions (16.6%). In 168 DRPs (96.0%) a recommendation was made. The overall acceptance rate by the prescribers was 58.9%.

The anti-infective consumption was not decreased in February 2018 compared to February 2017, nor the associated drug costs.

**DISCUSSION & CONCLUSION**

The content of the list is adequate according to the S-CVI/Ave and is therefore relevant. The pharmacist could detect 175 DRPs during prescription validation with the list. More than half of the recommendations were accepted. No economic benefit or reduction in consumption could be demonstrated compared to a historical control period.

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# AUTHOR INDEX