

## Background

- **Medication errors (MEs)** occur in 5% of drug administrations in inpatients
- Avoiding MEs is key to improve **patient safety**
- Our center implemented the **Check of Medication Appropriateness**, a back-office validation service, which significantly reduces potentially inappropriate prescriptions (PIPs)
- However, **prescriptions for compounded medicines are lacking in this validation system**

### Aim:

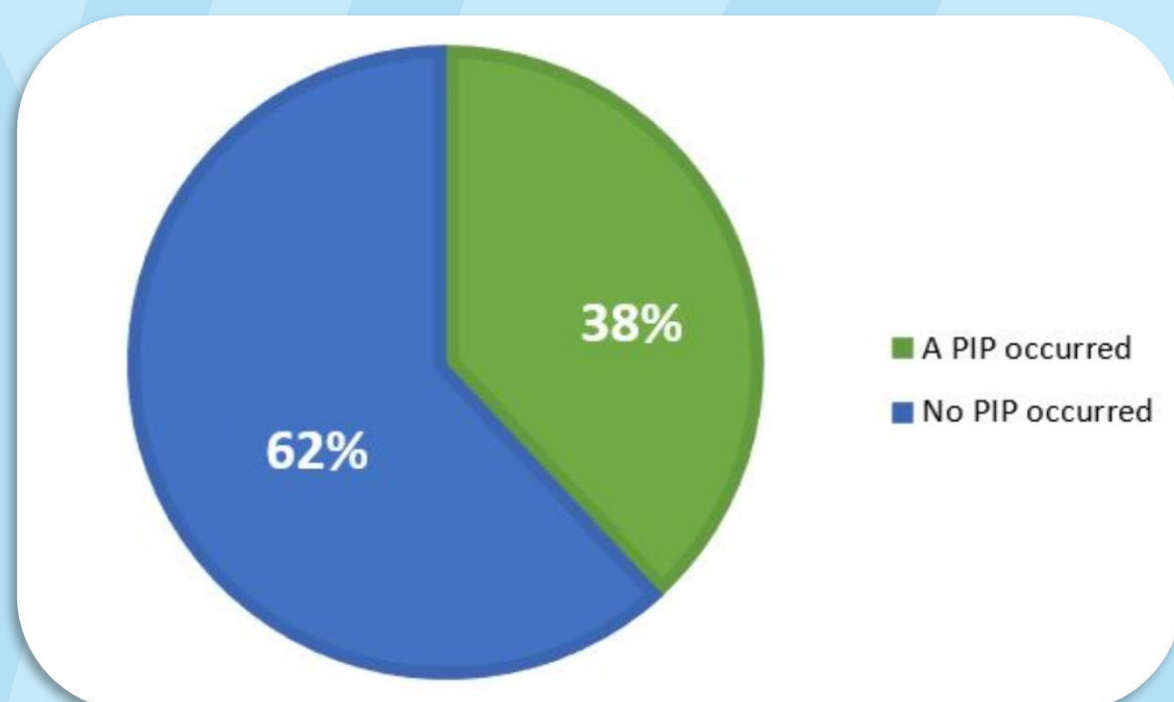
- To evaluate which checks are currently performed in a spontaneous and implicit way for prescriptions of compounded medicines
- These checks identify possibilities for **future development** of an explicit and standardized service called the **“Check of Compounding Appropriateness” (CCA)**

**Table 1.** TOP ATC 3 classes accounting for 50% of the registrations

ATC 3 class	Number
H02A = Corticosteroids for systemic use, plain	37
N03A = Anti-epileptics	20
G04B = Urologicals	16
N05A = Antipsychotics	14
C07A = Beta blocking agents	14
A05A = Bile therapy	14
J01M = Quinolone antibacterials	12
C09A = Ace inhibitors, plain	10
N02A = Opioids	10
D07A = Corticosteroids, dermatological preparations	9

ATC = anatomical therapeutic chemical

**Figure 1.** Percentage of PIPs occurrence



PIPs = potentially inappropriate prescription

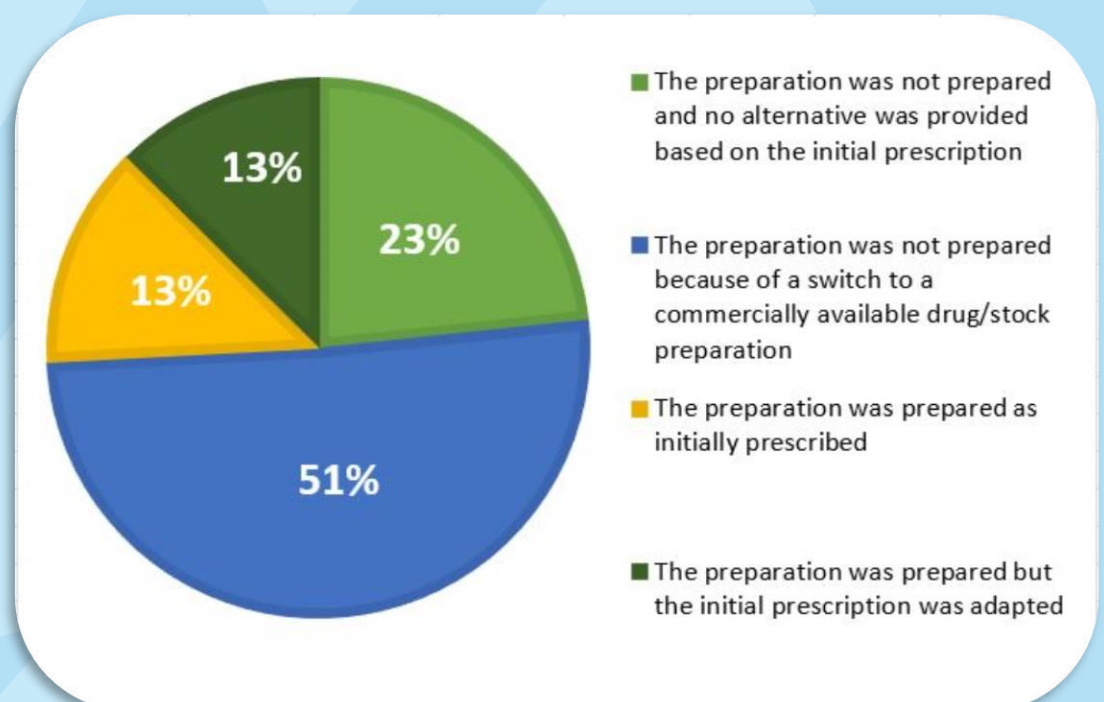
## Methods

- An **anonymous e-questionnaire** was implemented at the compounding unit of our center
- Pharmacists and pharmacy technicians were asked to complete the e-questionnaire for every prescription of compounded medicines for which **implicit and spontaneous checks** were performed
- Clinical checks and PIPs were categorized by type and sorted as **clinical or logistical problems**

## Results

- Data saturation was obtained after two months yielding registrations for **315 prescriptions**, accounting for 30% of total compounded prescriptions
- Eighty-nine percent (n = 281) of the prescriptions were ordered electronically instead of paper prescriptions
- Top category formulations included **capsules (n = 241) and ointments & creams (n = 26)**
- Table 1 shows the top categories of drug classes registered
- In total **1002 (clinical) checks were performed** for the 315 prescriptions
  - leading to the identification of **120 PIPs (38%) (figure 1)**
- Ninety-four PIPs accounted for a logistical problem, mainly **substitution (n = 58) or double order (n = 11)**; 25 were clinical PIPs, mainly **incorrect dosing (n = 15)**; one PIP contained both a clinical and logistical problem
- In 68% of PIPs colleagues were contacted
- Figure 2 describes the final action that occurred in prescriptions with PIPs

**Figure 2.** Final action of the prescription with PIPs



PIPs = potentially inappropriate prescription

## Conclusion

- **PIPs also occur in prescriptions for compounded medicines**
- At our center, these PIPs mainly include **substitution and dosing problems**
- Next to the set-up of back-office CCA, this survey revealed that **prescribing support**, such as a substitution or dosing module, should be implemented to increase the efficiency at the compounding unit and patient safety

