

How we picked drugs for our automated preparation

 Kaveh Teimori¹, Asbjørn Lunnan¹, Camilla Duedahl Hendé¹, Aleksandar Komnenić¹ & Espen Gleditsch¹
¹HOSPITAL PHARMACIES ENTERPRISE, SOUTH EASTERN NORWAY - OSLO HOSPITAL PHARMACY, OSLO, NORWAY

What was done?

Drugs were selected for automated preparation of ready-to-administer syringes and bags in Oslo Hospital Pharmacy.

Why was it done?

Oslo Hospital Pharmacy is working to standardize and automate 10% of Oslo University Hospital's annual consumption of 2 million parenteral medication doses. We aim to provide 200,000 ready-to-administer doses to Oslo University Hospital, starting with a trial in 2025 and scaling up to 200,000 doses by 2028.

This initiative addresses efficiency, reduces nurse workload, and minimizes medication errors, addressing healthcare workforce challenges at Oslo University Hospital.

How was it done?

Oslo Hospital Pharmacy selected ready-to-administer medications through a flexible process. This process involved thorough analysis of parenteral medication usage in 5 reference care units over eight months. The consumption in these units (69 beds) were compared to the entire Oslo University Hospital's (2,031 beds).

Collaborations with international partners in the Netherlands and Denmark confirmed shared priorities, especially in ready-to-administer antibiotics, validating our selection process.

What has been achieved?

The following 12 medications were selected for the initiative:

- Ampicillin 2g
- Benzylpenicillin 3g & 1.2g
- Cefazolin 2g
- Cefotaxim 2g
- Cloxacillin 2g
- Fentanyl 50 microg/ml
- Ketamin 10 mg/ml
- Piperacillin/tazobactam 4g
- Propofol 10 mg/ml
- Vancomycin 1g & 0.5g

Results showed that the reference care units consumed 15 ampoules or vials per bed, while Oslo University Hospital consumed 63, suggesting a representative and potentially even larger demand across the hospital.

What next?

The established drug selection procedure offers an organized method for incorporating new medications. This well-defined medication list facilitates the selection of the most appropriate automation system for implementation. Considering the prevalent staff and medication shortages on a global scale, many institutions are increasingly considering the adoption of automation in their drug preparation departments. We aspire that our method can offer valuable assistance in their pursuit.

