Broad-spectrum antibiotic use: how pharmacist-led real-time reviews improved a third of prescriptions at day six

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Background and importance

- The use of **broad-spectrum antibiotics (BSA)** contributes to the selection of resistant strains.
- In many clinical situations, there are narrower-spectrum alternatives available.
- Real-time reviews by **clinical pharmacists** working alongside **infectious diseases specialists (IDS)** could improve BSA prescriptions.

Aim and objectives

Can we **improve** and **reduce** the use of BSA by implementing an interdisciplinary intervention involving **clinical decision support system (CDSS)** to identify patients on **five-day BSA therapies**?

Conclusion

Yes, an intervention driven by a CDSS and led by clinical pharmacists in collaboration with IDS was effective in improving and in reducing the use of BSA in hospital settings.

Materials and methods

Lausanne University Hospital (CHUV)
CDSS running over 799 beds
Tertiary teaching hospital

Riviera – Chablais Hospital (HRC)
CDSS running over 212 beds
Secondary hospital

April – September 2025 (6 months)

BSA prescriptions:
- Piperacillin/tazobactam
- Cefepime
- Meropenem
- Ertapenem
- Imipenem/cilastatin

Day 6 ALERT
via the clinical decision support system

Clinical pharmacist's assessement

Intervention to the **attending physician**

Intervention to the **IDS**

No intervention needed

Results

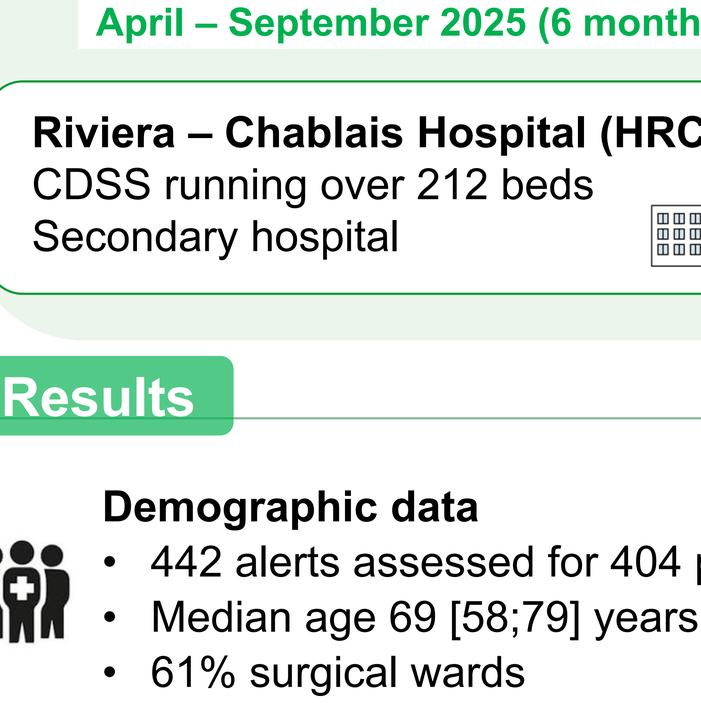
Demographic data
- 442 alerts assessed for 404 patients
- Median age 69 [58;79] years old
- 61% surgical wards
- 61% with previous IDS consultation

BSA prescriptions assessed
- 61% piperacillin/tazobactam
- 15% cefepime
- 10% meropenem
- 9% ertapenem
- 5% imipenem/cilastatin

Interventions
174 interventions **(39%)** of which 141 accepted (81%)

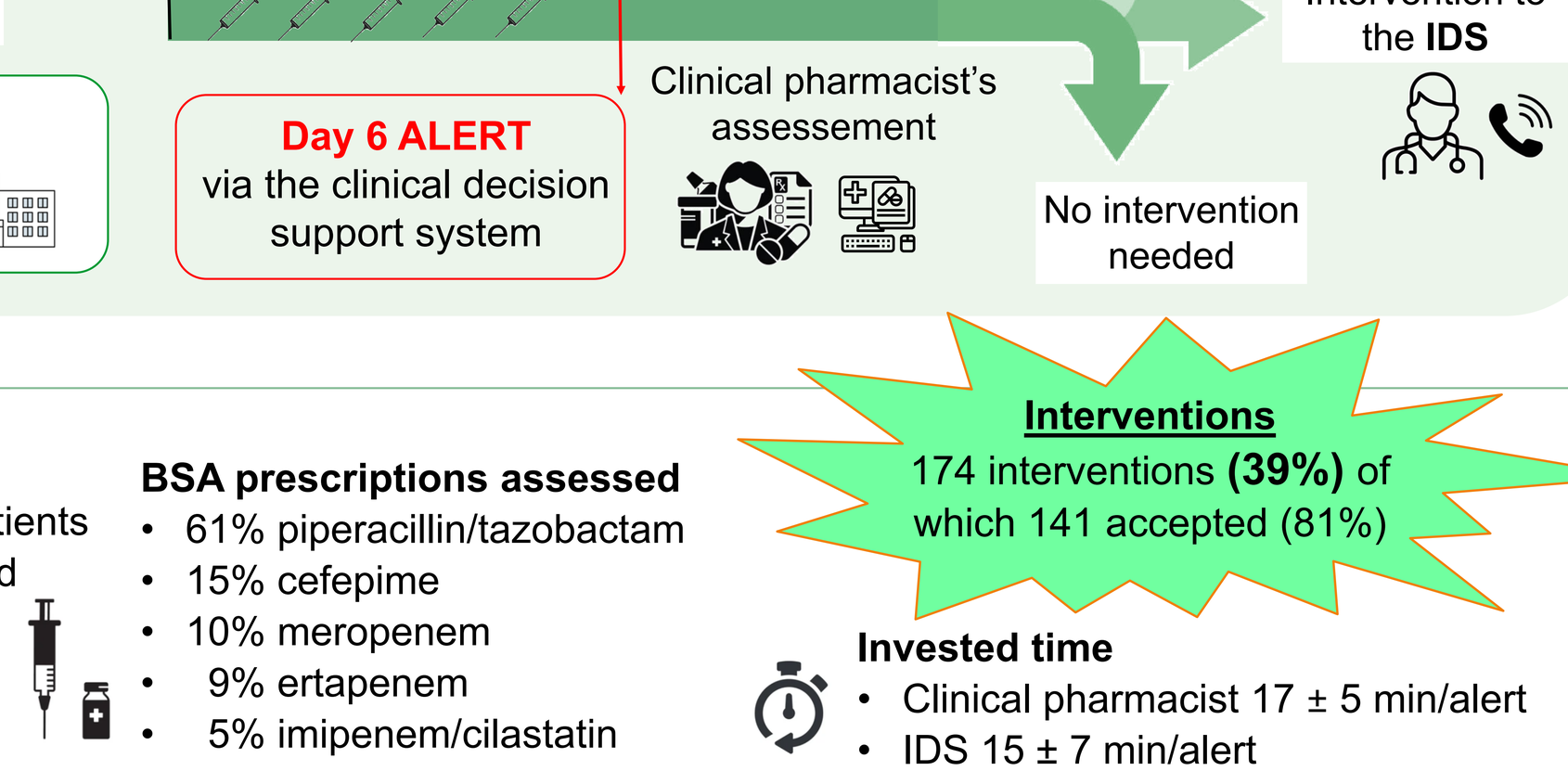
Invested time
- Clinical pharmacist 17 ± 5 min/alert
- IDS 15 ± 7 min/alert

Indication for BSA treatments



*Community-acquired or hospital-acquired

Type of interventions and acceptance rate



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