

# 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

April – September 2025 (6 months)

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

### BSA prescriptions:

- Piperacillin/tazobactam
- Cefepime
- Meropenem
- Ertapenem
- Imipenem/cilastatin

Intervention to the **attending physician**



**Day 6 ALERT**  
via the clinical decision support system

Clinical pharmacist's assessment



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

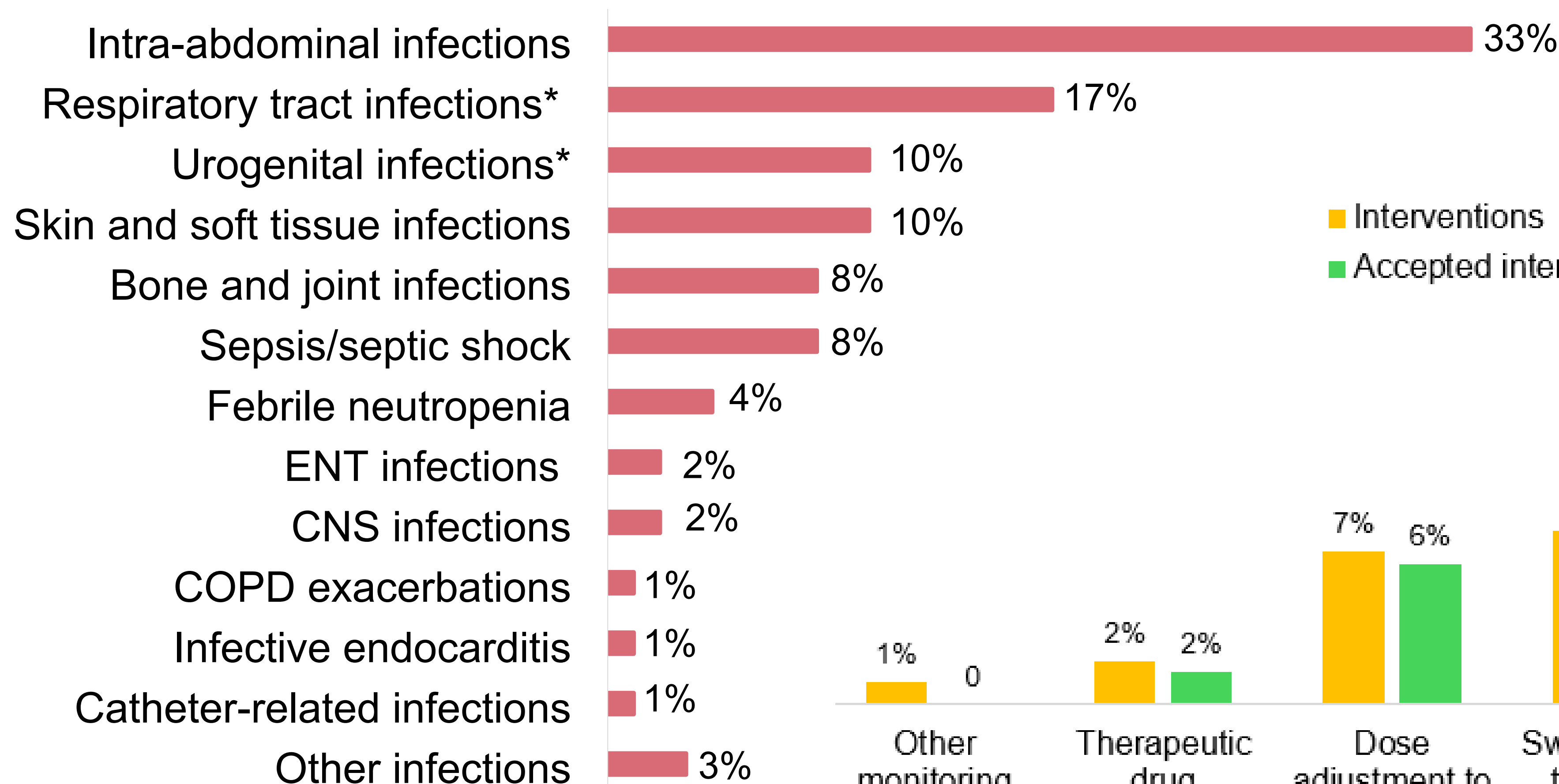
174 interventions (39%) of which 141 accepted (81%)

### 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

