

# Impact of Specific Guidelines on Antimicrobial Use in a Large Mixed ICU



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## BACKGROUND

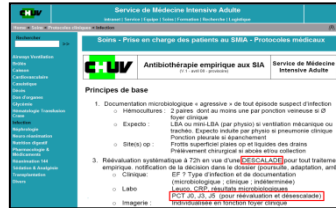
Guidelines from the « surviving sepsis campaign » have emphasized on early use of empirical broad spectrum antibiotics. This may have increased their use, particularly in ICUs. Despite recommendations, audits showed that de-escalation is difficult to achieve. Antimicrobial use in our ICU is higher than those reported by other hospitals of the country. We investigate the impact of guidelines for antibiotic use.

## METHODS

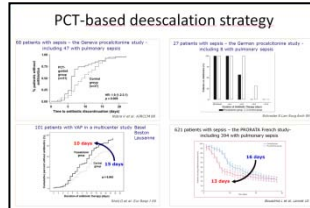
Antimicrobial use in our 32-bed adult ICU was extracted from the pharmacy database (ATC J01, J04AB, P01AB). Defined daily doses (DDD) were adapted from WHO recommendations (1). ICU activity was extracted from the electronic patient file (Metavision®) and from the datawarehouse of the hospital.



Institutional intranet-based guidelines



ICU intranet-based specific guidelines



Antimicrobial-targeted education

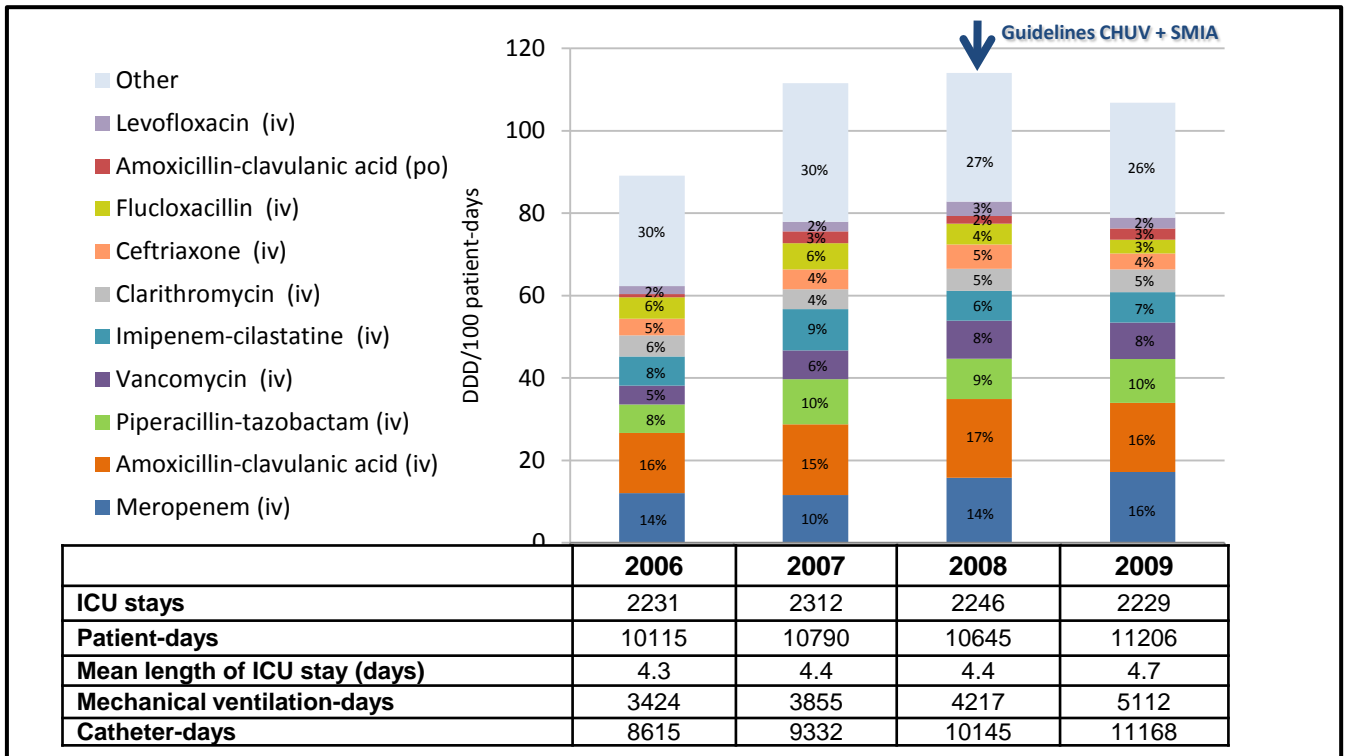
Audit	29.05.2009	12.06.2009	24.06.2009
Patients présents	29	30	32
Age médian	69	61	61
Durée hosp-audit	6 (1-27)	7 (1-74)	4 (1-59)
Patients sous AB	22 (76%)	22 (73%)	23 (72%)
Large spectre	6 (27%)	14 (64%)	10 (43%)
Durée AB	3 (1-18)	5 (1-17)	5 (1-59)
Durée > 16j	2	2	8
Proph inadéquate	4 (18%)	0	5 (22%)
AB tt adéquate	18 (81%)	22 (100%)	20 (87%)

Antimicrobial-targeted audits

Guidelines for antibiotic use were introduced in May 2008 and summarized in a pocket booklet distributed to all physicians. A one-hour session targeted at antimicrobial use was integrated into the ICU-introducing course in 2008 and completed by biannual specific sessions. These guidelines were further integrated into the ICU intranet with all other recommendations/protocol for patient care. Procalcitonin (PCT)-based de-escalation was introduced concomitantly.

## RESULTS

The global activity increased continuously over time (Table). A mean of 183 (+/- 22) dosages of procalcitonin were performed monthly in 2009. In contrast to this sustained increase in some risk factors, we observed a stabilization of the antimicrobial use since 2008, with a slight decrease in 2009.



## CONCLUSION

Introduction of specific guidelines supported by continuous education and training may have contributed to stabilize the antimicrobial use in our mixed ICU.