

# Development of a local therapeutic drug monitoring program for beta-lactams in Intensive Care

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## Background:

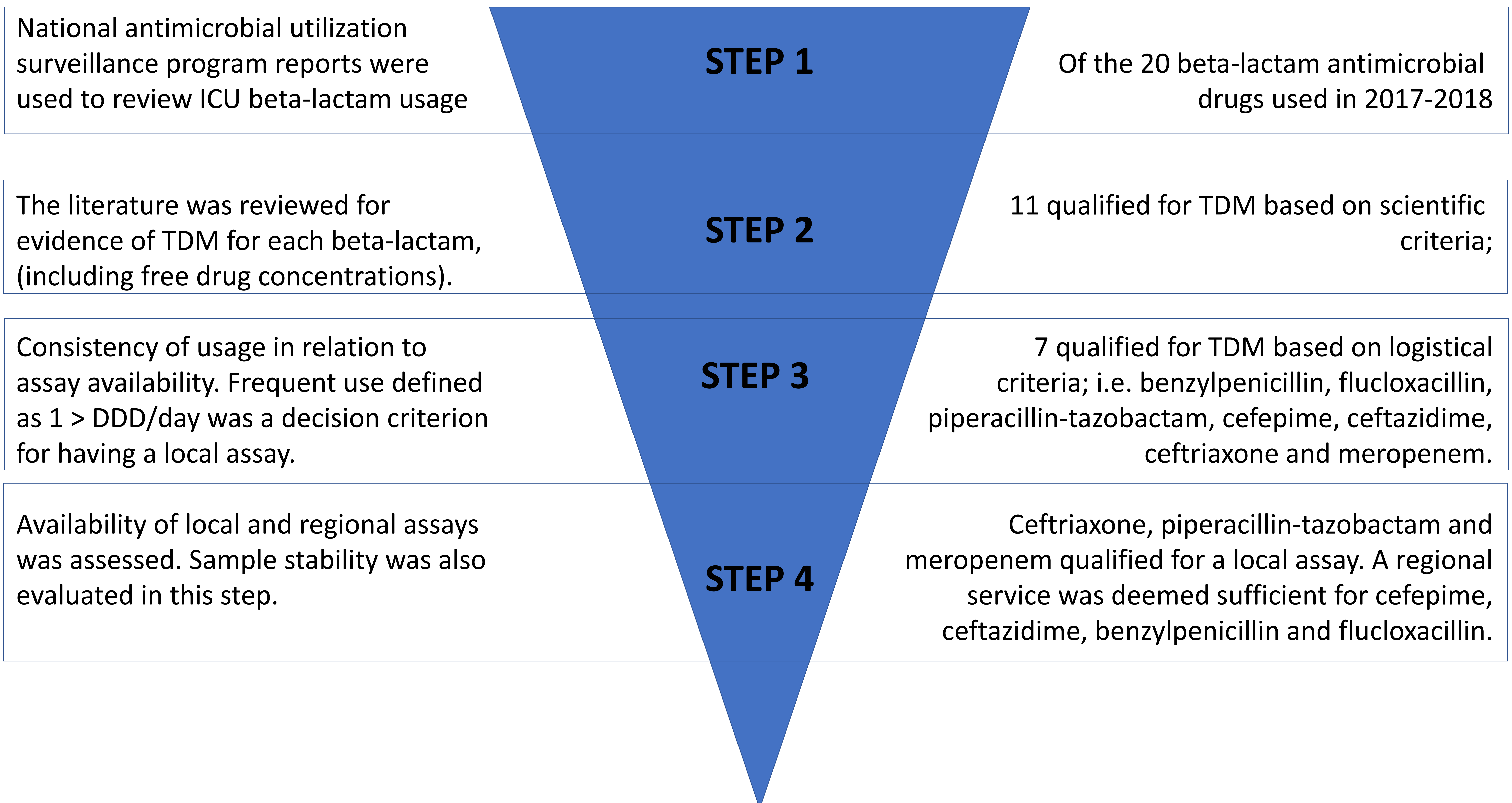
- Critically ill patients show a large variability in drug exposure due to variations in renal function, albumin concentration and volume of distribution results.
- Therapeutic drug monitoring (TDM) of antimicrobial drugs has been recommended to tailor dose, optimize cure, prevent acquired drug resistance and reduce adverse drug reactions.
- The challenge is to provide a comprehensive TDM program making optimal use of resources.

## Aim

Use a 4-step approach to develop a local TDM program for Beta-lactam antimicrobial drugs in the Intensive Care Unit.

## Methods

## Results



## Conclusion

- Local assay development is recommended for ceftriaxone, piperacillin-tazobactam and meropenem
- The assay for flucloxacillin needed to be upgraded with measurement of the free drug concentration.
- The proposed 4 step model is an objective and cost-effective approach to develop a TDM program.