## Flowchart of framework application

Step 1/2

Pre-emptive design algorithm based on inventory of common surveillance and clinical practices and data availability

Step 3/4

Algorithm performance assessment

Step 5A (based on group level analyses)

Component admission: Change of length of stay cut off (Cardiac 10🡪14 days; colon 7🡪 14 days) based on reevaluation inventory and number false positives of this component

Algorithms performance assessment

Step 5B (based on case-by-case discrepancy analyses)

No changes in algorithms, but additional data extraction microbiology surveillance orthopedic and cardiac surgery and algorithm performance assessment in hospital B

Step 1/2

Pre-emptive design algorithm based on inventory of common surveillance and clinical practices and data availability

Step 3/4

Algorithms performance assessment

Step 5A (based on group level analyses)

Microbiology - Refinement selection culture material (Hip/knee: hosp B; Cardiac, colon: hosp B&C)

Admission - Change of length of stay cut-off (Hip/knee, cardiac, colon: hosp A)

Reintervention - Refinement selection (cardiac: hosp B&C; colon: hosp A)

Algorithm performance assessment

Step 5B (based on case-by-case discrepancy analyses)

*Hip/knee:* Reintervention - Refinement selection (hosp B)

*Cardiac:* Reintervention - Refinement selection (hosp A)

Additional data extraction microbiology surveillance orthopedic and cardiac surgery hospital B

Algorithms performance assessment

## B. Center-specific algorithm

## A. Standardized algorithm