

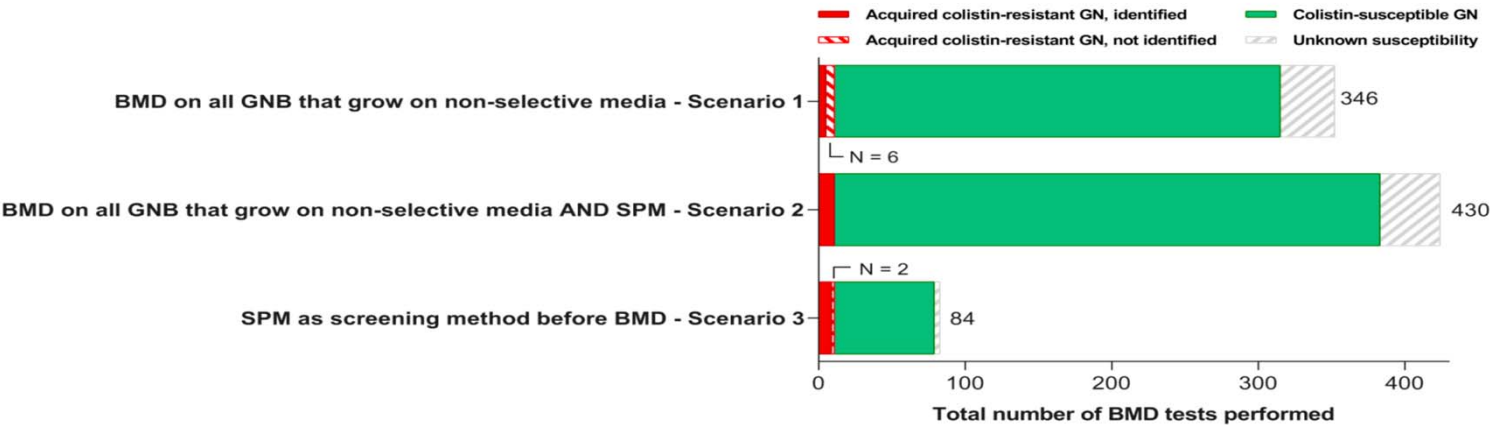
Cost analysis different scenarios of implementing colistin broth microdilution

Supplementary material to: 'The added value of the selective SuperPolymyxin™ medium in detecting rectal carriage of Gram-negative bacteria with acquired colistin resistance in intensive care unit patients receiving selective digestive decontamination'

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- Scenario 1: Implementation of routine colistin broth microdilution (BMD) on all Gram-negative isolates detected in the conventional inoculation method.
- Scenario 2: Addition of SuperPolymyxin™ medium (SPM) to the current laboratory pipeline and performing colistin BMD on all isolates detected in either the conventional method or SuperPolymyxin™ medium.
- Scenario 3: Addition of the SuperPolymyxin™ medium to the current laboratory pipeline and only performing colistin BMD on isolates detected through SuperPolymyxin™ (i.e. using SuperPolymyxin™ medium as a screening medium).



Notes:

- Costs of conventional inoculation methods are considered the same in each scenario; because SuperPolymyxin would be added to the current pipeline and would never "replace" all conventional methods. Therefore, these costs are not taken in to account in the current cost analysis. **IMPORTANT:** Costs represented here should therefore NOT be interpreted as total absolute costs for the different scenarios.
- The costs per colistin BMD test (21.45 euro) are based on internal UMCU calculations and are available from the corresponding author. These costs include material, lab technician time, overhead, etc.
- The current cost analysis is based on the number of isolates that were found during the study period: 9-7-2018 until 24-1-2019 (approx 6.5 months).

	Scenario 1			Scenario 2			Scenario 3		
	N tests performed	Costs per test	Total costs	N tests performed	Costs per test	Total costs	N tests performed	Costs per test	Total costs
Costs SPM (hypothetical)	0		0	1105	€ 5,09	€ 5.619,90	1105	€ 5,09	€ 5.619,90
Costs BMD	346	€ 21,45	€ 7.421,70	430	€ 21,45	€ 9.223,50	84	€ 21,45	€ 1.801,80
Total costs			€ 7.421,70			€ 14.843,40			€ 7.421,70

Interpretation:

- If the SPM medium would be 5.09 euro per plate, including lab technician time, Scenario 1 would be equal in costs as compared to Scenario 3.
- If the SPM medium would be <5.09 euro per plate (including material, lab technician time, etc.), then Scenario 3 would be cheaper as compared to Scenario 1.
- Scenario 2 is the most expensive scenario.