

O010

2-hour Oral Session

Advancing hospital antibiotic stewardship

Assessing antimicrobial stewardship programmes: a set of structure and process indicators for international use

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Objectives: The Transatlantic Task Force on Antimicrobial Resistance (TATFAR) recommended that common indicators to assess the infrastructure and activities of hospital antimicrobial stewardship programmes (ASPs) are developed. To implement this TATFAR recommendation, a multidisciplinary expert group was formed, coordinated by the US Centers for Disease Control and Prevention (CDC) and the European Centre for Disease Prevention and Control (ECDC).

Methods: Twenty experts, representing nine EU member states and six US states participated in a three-round, modified Delphi process using the RAND/UCLA appropriateness method. In the first round, experts were asked which of an initial list of 53 initial indicators should be retained or removed for consideration as ASP indicators. In the second round, the remaining indicators were rated for feasibility, clinical importance, and relevance to minimizing resistance on a 9-point Likert scale. In the final round, experts re-rated feasibility and clinical importance and selected 10 indicators that were most essential (core) to characterizing hospital ASPs. Indicators were retained, revised, or removed based on median scorings, a formal assessment of agreement, written comments, and structured discussions following the second and third rounds.

Results: Three rounds of ratings followed by an in-person meeting led to a final set of 17 'core' and 16 'supplemental' indicators. The 'core' indicators focused on ASP leadership and support; facility-specific guidelines and practices; monitoring antimicrobial use; and direct communication with prescribers. A selection of highly-rated 'core' indicators is presented in the Table. A majority of the indicators in the final set were structure rather than process indicators, which may reflect both the critical importance of staffing and baseline capacity.

Selected highly-rated indicators	Feasibility		Clinical importance	
	Mean score (Range)	Agreement*	Mean score (Range)	Agreement*
Antimicrobial stewardship programme?	8.5 (5-9)	5.9	8.2 (5-9)	6.2
Team available to support clinical decisions to ensure appropriate antimicrobial use?	7.7 (5-9)	3.2	8.4 (5-9)	6.6
Physician leader for antimicrobial stewardship activities?	8.1 (6-9)	4.8	8.1 (7-9)	4.8
Pharmacist responsible for ensuring appropriate antimicrobial use?	7.8 (5-9)	2.6	8.0 (5-9)	4.8
Facility-specific surgical prophylaxis guidelines	8.6 (7-9)	6.2	8.3 (5-9)	4.8
Post-prescription review of antimicrobial appropriateness?	6.6 (3-9)	3.0	8.1 (5-9)	4.8
Cumulative antimicrobial susceptibility report?	8.2 (5-9)	4.8	7.8 (5-9)	4.5

*Based on inter-percentile range adjusted for symmetry (IPRAS), a measure of agreement developed by RAND/UCLA. Positive values indicate panel agreement.

Conclusion: Based on available evidence, standardized methodology and professional experience, these indicators characterize hospital ASPs, reflecting aspects of ASPs that were considered essential to ensure appropriate use of antimicrobials in hospitals. Implementation of the 'core' indicators proposed by the TATFAR in multiple nations would contribute to a comprehensive, comparative description of infrastructure, policies, and practices of ASPs internationally.