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			Strict criteria*	Liberal criteria**
53. Are adverse drug events associated with antimicrobials reported to an antimicrobial stewardship team?				
	39. Does your facility monitor whether the indication for treatment is recorded in clinical case notes?	32. Does your facility monitor whether the indication for treatment is captured in the medical record?	Supplemental	Supplemental
	40. If YES, is the indication for treatment is recorded in clinical case notes in >95% of sampled cases in your facility?	33. If YES, is the indication for treatment is captured in the medical record in >80% of sampled cases in your facility?	Remove	Supplemental
	41. Does your facility measure the number of antimicrobial prescriptions that are consistent with the local treatment recommendations?	34. Does your facility measure the number of antimicrobial prescriptions that are consistent with the local treatment recommendations for either UTI or CAP?	Supplemental	Supplemental
	42. If YES, are antimicrobial prescriptions compliant with facility-specific guideline in >95% of sampled cases in your facility?	35. If YES, are antimicrobial prescriptions for UTI compliant with facility-specific guideline in >80% of sampled cases in your facility?	Remove	Supplemental
		36. If YES, are antimicrobial prescriptions for CAP compliant with facility-specific guideline in >80% of sampled cases in your facility?	Remove	Supplemental
	43. Does your facility measure the duration of surgical antimicrobial prophylaxis?	37. Does your facility review surgical antimicrobial prophylaxis?	Supplemental	Core
	44. If YES, are antimicrobial prescriptions compliant with facility-specific guideline in >95% of sampled cases in your facility?	38. If YES, are antimicrobial prescriptions compliant with facility-specific guidelines in >80% of sampled cases in your facility?	Supplemental	Supplemental

\*Strict criteria: If the remove "X" percentage was  $\geq 20.0\%$ , then the indicator was removed. If core "C" percentage was  $\geq 70.0\%$ , then that indicator was retained as a Core Indicator. The remaining indicators were retained as a Supplemental Indicator.

\*\*Liberal criteria: If the remove "x" percentage was  $\geq 20.0\%$ , then the indicator was removed, unless the supplemental "S" percentage was  $\geq 50\%$  for the same indicator, then that indicator was retained as supplemental. If the core "C" percentage was  $\geq 50.0\%$ , then that indicator was kept as a Core Indicator. The remaining indicators were retained as a Supplemental Indicators.



## D. Comparison of TATFAR antimicrobial stewardship indicators to other previously developed assessments

**Table 9. TATFAR indicators compared to ASP assessments in EU member states**

<p><b>TATFAR Core Indicators:</b></p> <p><b>17 core structure and process indicators for hospital antimicrobial stewardship programs</b></p>	<p><b>Antibiotic Strategy International (ABI)</b></p> <p><b>58 indicators developed, 10 identified as ‘minimal set of key indicators’ (bolded)</b></p>	<p><b>Annual French hospital survey CCLIN Sud-Ouest</b></p> <p><b>24 questions, 13 questions included in the national mandatory composite indicator on prudent use of antibiotics mandatory (bolded)</b></p>	<p><b>UK Antimicrobial Stewardship Assessment Tool (ASAT)</b></p> <p><b>82 questions, embedded scoring</b> <b>No prioritization of questions</b></p>
<p><b>Does your facility have a formal antimicrobial stewardship program accountable for ensuring appropriate antimicrobial use?</b></p>	<p><b>*Formal mandate for hospital multi-disciplinary antibiotic management team (AMT) existing</b></p> <p>Formal mandate for AB officer existing</p>		<p>Does the Trust have a written strategy for ensuring the quality of antimicrobial use?</p>
<p><b>Does your facility have a formal organizational structure responsible for antimicrobial stewardship (e.g., a multidisciplinary committee focused on appropriate antimicrobial use, pharmacy committee, patient safety committee or other relevant structure)?</b></p>	<p><b>*AB officer or AMT member is member of the drugs and therapeutics committee</b></p> <p>AMT (multi-disciplinary antibiotic management team) meetings performed at least bi-monthly</p> <p>AB policy and progress report disseminated to medical director by AMT/AB officer (also to infection control committee and drugs and therapeutics committee)</p>	<p><b>Does your hospital have a local multidisciplinary antibiotic committee?</b></p> <p>If yes, number of meetings held last year:</p>	<p>Is antimicrobial stewardship addressed within the Trust Infection Control Strategy?</p> <p>Does the DIPIC have antimicrobial stewardship included within their job description?</p> <p>Does the Trust have an antimicrobial committee or equivalent accountable to the IC/DT Committee? * How often does it meet? Does it have minutes or an action list?</p>
<p><b>Is an antimicrobial stewardship team available at your facility (e.g., greater than one staff member supporting clinical decisions to ensure appropriate antimicrobial use)?</b></p>	<p><b>*Bedside expert consultant advice regarding antibiotics by microbiologist/infectious disease specialist/antibiotic officer on request available on the same day</b></p> <p><b>*Regular ward rounds by members of the AMT (multi-disciplinary antibiotic management team) performed (at least weekly)</b></p>	<p>Is there a multidisciplinary antimicrobial team?</p>	

<p><b>Is there a physician identified as a leader for antimicrobial stewardship activities at your facility?</b></p>		<p><b>Does your hospital have one or several antibiotic advisors?</b></p> <p><b>If yes, specify their specialty</b></p>	
<p><b>Is there a pharmacist responsible for ensuring antimicrobial use at your facility?</b></p>		<p>If yes, specify their diploma</p> <p>If yes, time spent by the antibiotic advisor in no. days / week:</p>	<p>Is there a substantive AM pharmacist post in place?</p>
<p><b>Does your facility provide any salary support for dedicated time for antimicrobial stewardship activities (e.g., percentage of full-time equivalent (FTE) for ensuring appropriate antimicrobial use)?</b></p>	<p>Time resources for AMT defined</p> <p>Time resources for AB officer defined</p>	<p>What time is dedicated by the pharmacist to antibiotic dispensation (in no. hours per week)?</p>	<p>What WTE AM Pharmacy staff/500 beds is spent on antimicrobial duties?</p>
<p><b>Does your facility have the IT capability to support the needs of the antimicrobial stewardship activities?</b></p>	<p><i>Computerised antibiotic prescription/order form/system available</i></p>	<p><b>Does your hospital have information technology support for prescribing antibiotics?</b></p> <p>Does your hospital have information technology support for pharmaceutical analysis of antibiotic prescriptions?</p> <p><b>Does your hospital have computerized link between pharmacy, laboratory and clinical wards?</b></p>	
<p><b>Does your facility have facility-specific treatment recommendations based on local antimicrobial susceptibility to assist with antimicrobial selection for common clinical conditions?</b></p>	<p>Local clinical practice guidelines/ guide for microbiologically documented therapy available [As above] updated biannually</p> <p><b>*Local clinical practice guidelines/guide for empirical therapy available [As above] updated biannually</b></p> <p><b>*Local clinical practice guidelines/guide for surgical antibiotic prophylaxis available</b></p>	<p><b>Are there local guidelines for antibiotic surgical prophylaxis, endorsed by the antibiotic committee, based on nationally agreed guidelines?</b></p> <p><b>Are there local guidelines for first line antibiotic treatment for main infections, endorsed by the antibiotic committee?</b></p>	<p>Are peer-reviewed, evidence-based, guidelines available for treatment of common infections?***</p> <p>Are peer-reviewed, evidence-based, surgical prophylaxis guidelines available for the common procedures?</p> <p>Is selection for the guidelines informed by local microbiological sensitivity patterns?</p>

			<p>Do AM guidelines provide guidance on typical duration of treatment for each indication?</p> <p>Do AM guidelines provide guidance on choice, dose, route, IV switch for each indication as appropriate?</p>
<p><b>Does your facility have a written policy that requires prescribers to document in the medical record or during order entry a dose, duration, and indication for all antimicrobial prescriptions?</b></p>			<p>Does the AM policy stipulate that indication should be recorded before AMs are prescribed?</p> <p>Does the AM Policy stipulate that course length or review date is recorded on the prescription chart at time of prescribing?</p>
<p><b>Is it routine practice for specified antimicrobial agents to be approved by a physician or pharmacist in your facility (e.g., pre-authorization)?</b></p>	<p>Special request/order form for (selected) antimicrobial drugs available</p>	<p><b>Are there specific requirements for the dispensation of some antibiotics? (restricted antibiotics / controlled dispensation)</b></p> <p><b>If yes, are restricted antibiotics dispensed for a limited duration allowing assessment after 2-3 days (prescriptions with stop-order)?</b></p> <p>If yes, are restricted antibiotics dispensed only if clinical information is provided?</p> <p>If yes, are restricted antibiotics dispensed only if microbiologic information is provided?</p> <p>If yes, are restricted antibiotics dispensed if prior approval by the antibiotic advisor?</p>	<p>Is there a system for restricted access to certain Formulary antimicrobials within the trust?</p> <p>Is there a system for reporting unauthorised prescribing?</p>



<p><b>Is there a formal procedure for a physician, pharmacist, or other staff member to review the appropriateness of an antimicrobial after 48 hours from the initial order (post-prescription review)?</b></p>	<p>Clinical audit by AB officer for evaluation of prescribers' Time-limited drug delivery/automatic stop order available compliance with streamlining drugs on days 2–3</p>		<p>Does the AM Policy stipulate that appropriate de-escalation of therapy takes place?</p>
<p><b>Has your facility produced a cumulative antimicrobial susceptibility report in the past year?</b></p>	<p>Antibiotic resistance data regarding MRSA analysed and written report provided at least 1×/year [As above] regarding ESBL [As above] other than MRSA and ESBL</p>	<p>Does your hospital monitor antimicrobial resistance?</p>	
<p><b>Does your facility monitor if the indication is captured in the medical record for all antimicrobial prescriptions?</b></p>			<p>Is there an AM audit strategy/program?  Is compliance with AM Prescribing Policy audited and fed back in each specialty at least once a year?</p>
<p><b>Does your facility audit or review surgical antimicrobial prophylaxis choice and duration?</b></p>			<p>Is adherence to pertinent surgical prophylaxis guidelines audited and fed back in each specialty at least once a year?</p>
<p><b>Are results of antimicrobial audits or reviews communicated directly with prescribers?</b></p>	<p><b>*Clinical audit of prescribers' compliance with local clinical guidelines/guide performed by AMI/AB officer</b></p> <p><b>*Prescriber education by personalised interactive methods (like daily ward rounds) performed</b></p> <p>ABS-related formal exchange of experiences (e.g. meeting) of AMT with general practitioners min. 1×/year performed</p> <p>AB consumption feedback to the ward at least 1×/year</p>	<p><b>Did your hospital carried out prescribing practice audit last year?</b></p> <p>If yes, did you perform feedback to prescribers?</p>	<p>Are incident reports of AM usage fed back to the AM committee or other group?</p>

<p><b>Does your facility monitor antimicrobial use by grams [Defined Daily Dose (DDD)] or counts [Days of Therapy (DOT)] of antimicrobial(s) by patients per days?</b></p>	<p>Drug use Total annual antibacterial (ATC J01) consumption for monitoring local temporal trend</p> <p>Annual analysis of AB consumption data (in DDD or RDD)</p> <ul style="list-style-type: none"> <li>-by drug class</li> <li>-available on department level (i.e. by discipline)</li> <li>-available on ward level</li> </ul>	<p><b>Does your hospital monitor antibiotic consumption expressed in number of Defined Daily Doses (DDD) per 1000 patient-days?</b></p>	<p>Is antimicrobial consumption monitored eg DDDs per activity?</p> <p>Is antimicrobial consumption reported to clinical specialties?</p>
<p><b>Has an annual report focused on antimicrobial stewardship (summary antimicrobial use and/or practices improvement initiatives) been produced for your facility in the past year?</b></p>	<p>AB policy plan with quantitative objectives for performance indicators published annually by AMT/AB officer</p> <p>Prospective drug use evaluation on the wards by AB officer at least 1 drug/annually</p>	<p><b>Did your hospital carried out prescribing practice audit last year?</b></p> <p>If yes, were results discussed during an antibiotic committee?</p>	<p>Does the Trust board including non-Exec directors receive an annual report pertaining to AM stewardship?</p> <p>Are incident reports of AM usage fed back to the AM committee or other group?</p>

<p><b>TATFAR Supplemental Indicators: structure and process indicators for hospital antimicrobial stewardship programs</b></p>	<p>Antibiotic Strategy International (ABI)</p> <p><b>58 indicators developed, 10 identified as ‘minimal set of key indicators’ (bolded)</b></p>	<p>Annual French hospital survey <b>CCLIN Sud-Ouest</b></p> <p>24 questions, 13 questions included in the national mandatory composite indicator on prudent use of antibiotics mandatory (bolded)</p>	<p>UK Antimicrobial Stewardship Assessment Tool (ASAT)</p> <p><b>82 questions, embedded scoring</b></p> <p><b>No prioritization of questions</b></p>
<p><b>Does your facility have a named senior executive officer with accountability for antimicrobial leadership?</b></p>			
<p><i>Is an antimicrobial stewardship team available at your facility (e.g., greater than one staff member supporting clinical decisions to ensure appropriate antimicrobial use)?</i></p>			

<p><b>If YES, Is an infection preventionist or hospital epidemiologist involved in stewardship activities?</b></p>			
<p><b>If YES, Is a microbiologist (laboratory staff) involved in stewardship activities?</b></p>			
<p><b>Is clinical infectious disease (ID) consultation available at your facility?</b></p>			<p>Is advice from a medical microbiologist/ID physician available by telephone?</p>
<p><i>Is there a physician identified as a leader for antimicrobial stewardship activities at your facility?</i></p> <p><b>If YES, Are stewardship duties included in the job description and/or annual review?</b></p>			
<p><b>If YES, Is this physician trained in infectious diseases, clinical microbiology and/or antimicrobial stewardship?</b></p>			
<p><i>Is there a pharmacist responsible for ensuring antimicrobial use at your facility?</i></p> <p><b>If YES, has this pharmacist had specialized training in infectious disease management or stewardship?</b></p>			<p>Does the lead AM pharmacist have &gt; 3 years experience in this specialist role?</p> <p>Does the lead AM pharmacist have a higher qualification than first degree (e.g. Diploma/MSc)?</p> <p>Does the lead AM pharmacist have specialist training in infection management /antimicrobial use</p>
<p><i>Does your facility have facility-specific treatment recommendations based on local antimicrobial susceptibility to assist with antimicrobial selection for common clinical conditions:</i></p> <p><b>If YES, for surgical prophylaxis?</b></p>			

<b>If YES, for community-acquired pneumonia?</b>			
<b>If YES, for urinary tract infection</b>			
<b>If YES to any of the clinical conditions above, are these treatment recommendations easily accessible to prescribers on all wards (printed 'pocket guide' or electronic summaries at workstations)</b>			
<i>Are any of the following actions implemented in your facility to improve antibiotic prescribing?</i>  <b>Standardized criteria for changing from intravenous to oral antimicrobial therapy in appropriate situations?</b>	Guidelines/guides for iv–oral switch available  [As above] updated biannually		Are there IV to Oral switch guidelines?
<b>Dose optimization (pharmacokinetics/pharmacodynamics) to optimize the treatment of organisms with reduced susceptibility?</b>			Is there guidance on dosing optimisation for AMs with a narrow therapeutic index?
<b>Discontinuation of specified antimicrobial prescriptions after a pre-defined duration?</b>	Time-limited drug delivery/automatic stop order available		
<b>Does your facility measure the percentage of antimicrobial prescriptions that are consistent with the local treatment recommendations for either UTI or CAP?</b>		<b>Did your hospital carried out prescribing practice audit last year?</b>  If yes, were results discussed during an antibiotic committee?  If yes, were results discussed during an infection control committee?  If yes, did you perform feedback to prescribers?	Is adherence to pertinent treatment guidelines audited in each specialty and fed back at least once a year?
<i>Does your facility audit or review surgical antimicrobial prophylaxis choice and duration?</i>			















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