Antimicrobial Stewardship Strategy: Checklists

A list of items or actions that should be followed to standardize and ensure consistency in practice.

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Priority Level: **B**

Difficulty Level: **1**

Program Stage:

- Early
- ✓ Intermediate
- Advanced

For more information on these criteria and how they were developed, please see the Antimicrobial Stewardship Strategy Criteria Reference Guide.

Description

This is an overview and not intended to be an all-inclusive summary. As a general principle, patients must be monitored by the health care team after changes to therapy resulting from recommendations made by the antimicrobial stewardship team.

A checklist is a tool that outlines items that should be considered or steps that should be performed in a systematic order. Checklists are used to ensure that essential or important tasks are reliably performed in a standardized fashion. In medicine, checklists are used in areas of high risk or complexity to support best practice and reduce patient harm.

Checklists may be employed as a standalone antimicrobial stewardship strategy, or to facilitate the implementation of other stewardship strategies. Examples of their application to stewardship include:

- As an educational tool to reinforce steps for the assessment of a patient's antimicrobial therapy.
- Providing a thorough, consistent and structured approach for clinicians when they review a patient's antimicrobial therapy. This can support clinical pharmacists or physicians in their daily practice or be used in prospective audit with intervention and feedback.
- Incorporation into scheduled periodic antimicrobial reassessments or "time outs" as a reminder of items that should be addressed (e.g., continued need, appropriate choice, de-escalation, duration).
- Bringing attention to patients receiving antimicrobial therapy during daily intensive care unit (ICU) or other ward or service rounds, and helping assess them.
- Ensuring all criteria are met when considering intravenous to oral (IV to PO) conversion.
- Facilitating documentation of key aspects of antimicrobial use in the patient's chart.

Checklists used for assessing and optimizing antimicrobial therapy could include the following components:

- A review of the indication for antimicrobial therapy/diagnosis.
- Appropriateness of the anti-infective agent(s) selected.
- Assessment of route and dose.
- Review of microbiology results.
- Consideration for de-escalation or streamlining.
- Intended duration of therapy.
- Preventative measures (e.g., removal of any lines or catheters that are no longer necessary, and review of immunization status and provide vaccinations if required; these are often overlooked considerations that can minimize the risk of infection).

Some checklists become a permanent record in the patient's chart, serving as documentation that the process was performed and of the presence, absence or applicability of items on the list. When used for antimicrobial stewardship, checklists may or may not become part of the chart, depending on their purpose.

The development and components of checklists should be evidence-based, whenever possible, and should include input from primary users.

Users should be educated on the importance of the checklist, and trained how to incorporate it into practice. Ideally, auditing should be conducted and feedback provided to users about compliance rates and outcome measures.

For checklists that are intended for systematic use by clinicians (as opposed to educational or personal practice purposes), reminders in the form of posters, pocket cards or chart stickers—or prompting by members of the health care team—may be necessary to enhance compliance.

Advantages

- Multiple applications to antimicrobial stewardship.
- Enhances consistency in practice.
- Can improve practitioners' familiarity and comfort with the process of antimicrobial assessment.
- Usually well accepted by clinicians.

Disadvantages

- Overuse of checklists can result in "checklist fatigue" and decreased compliance.
- Overemphasis may be placed on completing the checklist itself, with a risk of the intent of the checklist becoming lost.
- Overreliance on checklists may result in rare or uncommon scenarios being overlooked.

Requirements

- Personnel to design, implement, trial and assess checklist.

Associated Metrics

- Compliance with use of the checklist.
- Assessment of practice (e.g., components of the checklist) before and after implementation.
- User survey on acceptance and usefulness of the checklist.

Useful References

Select articles to provide supplemental information and insight into the strategy described and/or examples of how the strategy was applied; not a comprehensive reference list. URLs are provided when materials are freely available on the Internet.

- Hales B, Terblanche M, Fowler R, Sibbald W. Development of medical checklists for improved quality of patient care. Int J Qual Health Care. 2008;20(1):22–30. Available from: http://intqhc.oxfordjournals.org/content/20/1/22.long

  A literature review of designing and implementing checklists in medicine.

- Lee TC, Frenette C, Jayaraman D, Green L, Pilote L. Antibiotic self-stewardship: trainee-led structured antibiotic time-outs to improve antimicrobial use. Ann Intern Med. 2014;161(10 Suppl):S53–8.

  Checklist used as part of the "time out" process.

- Mertz D, Koller M, Haller P, Lampert ML, Plagge H, Hug B, et al. Outcomes of early switching from intravenous to oral antibiotics on medical wards. J Antimicrob Chemother. 2009;64(1):188–99. Available from: http://jac.oxfordjournals.org/content/64/1/188.long

  Checklist used to facilitate IV to PO transition.

- van Daalen FV, Prins JM, Opmeer BC, Boermeester MA, Visser CE, van Hest RM, et al. A cluster randomized trial for the implementation of an antibiotic checklist based on validated quality indicators: the AB-checklist. BMC Infect Dis. 2015;15:134. Available from: http://www.biomedcentral.com/1471-2334/15/134

  Details of a study protocol to assess the implementation and outcomes of a generic antibiotic checklist to improve antibiotic use in hospitals. An example of the checklist is provided.

Tools and Resources

- Hardy A, Johnson R, Tweddell L, Johnson M. Use of an antibiotic checklist to improve antibiotic prescribing on AMU. [Internet]. Huddersfield, UK: Calderdale and Huddersfield NHS Foundation Trust; 2012 Oct 30 [cited 2015 Aug 19]; Available from: http://www.acutemedicine.org.uk/wp-content/uploads/2012/10/aqi60%20-%20use%20of%20an%20antibiotic%20checklist%20to%20improve%20antibiotic%20prescribing%20on%20amu.pdf

- Department of Health Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection. Secondary care prescriber's checklist [Internet]. London, UK: Department of Health Advisory Committee on ARHAI; 2011 Nov 18 [cited 2015 Aug 19]. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216963/5-SC-dh_130288.pdf

Samples/Examples

- Example: ASPIRES, Quality and Patient Safety, Vancouver Coastal Health - Anti-infectives Checklist

These documents have been generously shared by various health care institutions to help others develop and build their antimicrobial stewardship programs. We recommend crediting an institution when adopting a specific tool/form/pathway in its original form.

Examples that contain clinical or therapeutic recommendations may not necessarily be consistent with published guidelines, or be appropriate or directly applicable to other institutions. All examples should be considered in the context of the institution's population, setting and local antibiogram.

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Links with Other Strategies

- Improved antimicrobial documentation
- Intravenous to oral conversion
- Prospective audit with intervention and feedback
- Scheduled antimicrobial reassessments ("antibiotic time outs")
- Surgical antibiotic prophylaxis optimization

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For further information

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Example: ASPIRES, Quality and Patient Safety, Vancouver Coastal Health - Anti-infectives Checklist

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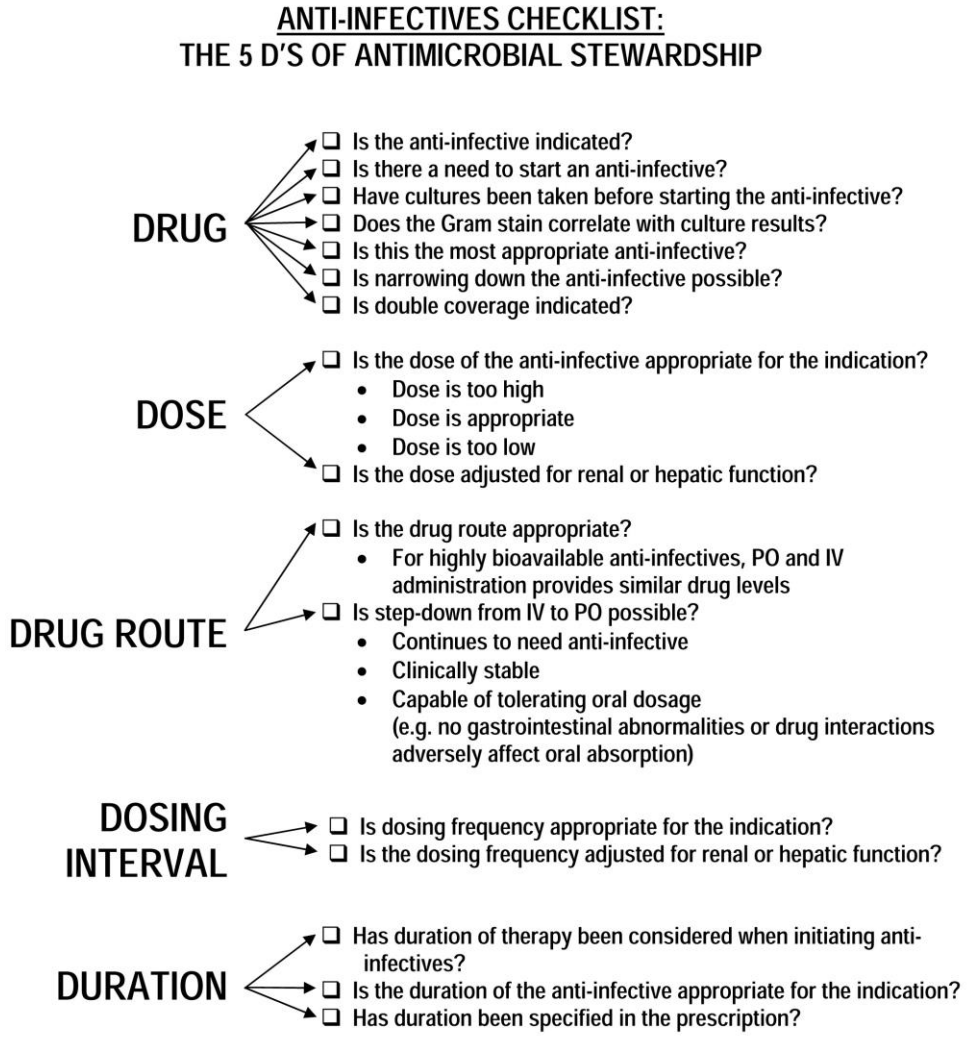

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