Drug and Therapeutics Committee
Training Course

Session 13.
The Role of the DTC in Containing Antimicrobial Resistance

Trainer’s Guide
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Developed in Collaboration with the
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### ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AIDS</td>
<td>acquired immunodeficiency syndrome</td>
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<tr>
<td>ACT</td>
<td>artemisinin-based combination therapy</td>
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<td>AMR</td>
<td>antimicrobial resistance</td>
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<tr>
<td>AOF</td>
<td>antibiotic order form</td>
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<tr>
<td>ARI</td>
<td>acute respiratory infection</td>
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<td>DTC</td>
<td>Drug and Therapeutics Committee</td>
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<td>DUE</td>
<td>drug use evaluation</td>
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<td>HIV</td>
<td>human immunodeficiency virus</td>
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<tr>
<td>ICU</td>
<td>intensive care unit</td>
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<td>IV</td>
<td>intravenous</td>
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<td>MDR-TB</td>
<td>multidrug-resistant tuberculosis</td>
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<td>MRSA</td>
<td>methicillin-resistant <em>Staphylococcus aureus</em></td>
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<td>PTC</td>
<td>Pharmacy and Therapeutics Committee</td>
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<td>STG</td>
<td>standard treatment guideline</td>
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<td>TB</td>
<td>tuberculosis</td>
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<tr>
<td>VA</td>
<td>visual aid</td>
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<td>VRE</td>
<td>vancomycin-resistant enterococcus</td>
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<tr>
<td>VRSA</td>
<td>vancomycin-resistant <em>Staphylococcus aureus</em></td>
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<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>XDR-TB</td>
<td>extensively drug-resistant tuberculosis</td>
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SESSION 13. ANTIMICROBIAL RESISTANCE

Purpose and Content

Session 13 is designed to provide information about the Antimicrobial Subcommittee and how it functions within the Drug and Therapeutics Committee (DTC). The session begins with description of global problem of antimicrobial resistance (AMR) with country level examples. A discussion about implementing and maintaining an Antimicrobial Subcommittee and multifaceted strategies to contain AMR follows.

Objectives

After attending this session, participants will be able to—

- Understand the global situation of antimicrobial resistance
- Describe the role of the DTC in containing AMR
- Discuss multifaceted strategies to contain AMR

Outline

- Introduction and Background
- Global Situation and Impact of AMR
- Causes of AMR
- Role of DTC in Containing AMR
- Activity
- Summary

Preparation and Materials

- Read the Trainer’s Guide, Participants’ Guide, and review the visual aids (VAs).
- Instruct participants to read the Participants’ Guide the evening before the session presentation.
- Ask participants to critically think about any examples about their experiences about problems in antimicrobial use and related interventions. Having participants come prepared with such examples will greatly benefit the group’s understanding of the role of an Antimicrobial Subcommittee.

Further Readings


Visual Aid Listing

1. Title slide
2. The Threat of AMR
3. Objectives
4. Outline
5. Introduction
6. Global Situation of AMR (1)
7. Global Situation of AMR (2)
8. Global Situation of AMR (3)
9. Global Situation of AMR (4): Running out of Options—Example of *N. Gonorrhea*
10. AMR in Hospitals
11. Nosocomial Infections and AMR
12. Impact of AMR
13. Impact of AMR: Example of Multidrug Resistant TB
15. Impact of AMR: Cost Implications of Nosocomial MRSA
16. Impact of AMR: Cost Implications of Changing to an ACT Regimen for Malaria Treatment
17. Causes of AMR (1)
18. Causes of AMR (2)
19. Inappropriate Use Is a Major Contributor to AMR
20. Reasons for Irrational Prescribing
21. Global Strategies to Address AMR
22. Key Approaches to Contain AMR
23. DTC is a key body in the hospital setting
24. DTCs Can Help Preserve Effectiveness of Existing Antimicrobials by— (1)
25. DTCs Can Help Preserve Effectiveness of Existing Antimicrobials by— (2)
26. Antimicrobial Policies: Classification
27. Monitoring Antimicrobial Sensitivity Patterns (Surveillance)
28. DTC Can Create an Antimicrobial Subcommittee to Help
29. Establishment of an AMR Subcommittee within DTC: Experience from Kenya 2006
30. AMR Subcommittee Functionality: Experience from Kenya (1)
31. AMR Subcommittee Functionality: Experience from Kenya (2)
32. Success of Antibiotic Order Form: Example from Thailand (1)
33. Success of Antibiotic Order Form: Example from Thailand (2)
34. Example of Policy for Switching from IV to Oral Antibiotics: U.K. Experience (1)
35. U.K. Experience (2)
36. U.K. Experience (3)
37. DTC Can Collaborate with Other Units to Create Synergy in Action
38. Activity
39. Summary (1)
40. Summary (2)
41. Summary (3)
42. Summary (4)
Organization of the Session

Total time: 2.5 hours

Session 13 is designed to provide an overview of practical strategies of containing the threat of AMR through various methods. Relate the contents of this session to session 9, “Strategies to Improve Medicine Use—Overview.” The session should be participatory, drawing on the experiences of participants in their home countries or respective health facilities.

First Component: 5 minutes
VAs 1–5: Introduction

Introduce the session by briefly explaining the objectives and outline of the session and reviewing with the participants the consequences of AMR.

Second Component: 30 minutes
VAs 6–16: Global Situation of AMR and Impact

Discuss the commonly known global situation of AMR with respect to various infectious diseases such as malaria, tuberculosis (TB), dysentery, and pneumonia. Information on the global situation of AMR illustrates that it has no geographic boundaries and is a common problem everywhere. Inform the participants as well that developing new antimicrobials is limited and that existing therapies cease to be effective in many cases. Ask participants about their challenges of uncertain diagnoses, and solicit their observations of irrational antimicrobial use. Transition to the hospital scenario where AMR is a major problem, and link the information to the purpose of this session.

The impact of AMR on the health care system is enormous. Explain thoroughly the issues around increased morbidity and mortality. The increased cost of treatment as a result of AMR is problematic. The cost of MDR-TB is increasing and many reports show that it is up 300 times the cost of standard treatment. Switching to artemisinin-based combination therapy (ACT) therapy for malaria is increasing the cost of treatment significantly in countries where chloroquine resistance is found.

Third Component: 15 minutes
VAs 17–20: Causes of AMR

Use this set of slides as a guide to engage in active discussion with participants. Ask the participants to provide examples with some of the information from the slides. Obtain a few examples of problems that are known to contribute to the cause of AMR. Subsequently, use these participant examples as potential activities at the end of the session.
Fourth Component: 30 minutes  
Vas 21–27: Key Approaches to Contain AMR and the Role of DTC

Information in these slides forms the core of this session. Discuss this information in depth, and be sure that participants understand the importance of each activity that a DTC can do to address AMR.

Fifth Component: 15 minutes  
VAs 28–37: Examples of DTC Activities to Contain AMR

The Kenya example describes the process of establishing a DTC along with initial activities. (Mention that this example was provided by a former DTC participant who implemented lessons learned from this session in her hospital.) The Thailand example specifically provides evidence of the benefits of the antibiotic order form and associated costs savings. The United Kingdom (U.K.) example illustrates the reduction of lengthy intravenous (IV) antimicrobial use and the development of a policy to switch to oral antimicrobials. Emphasize that the success of the Antimicrobial Subcommittee depends on effective relationships with prescribers and various hospital departments.

Sixth Component: 40–60 minutes  
VAs 38: Activity

Allow 20 minutes for group discussion and 20 minutes for plenary discussion. If you have time, you could allow 30 minutes for each part instead of 20 minutes and this would result in better discussion.

Ask each group to identify known problems of antibiotic use in its hospital. If some of the problems already have been mentioned during the session, assign one problem (i.e., case study) to each group.

Ask the participants to develop practical strategies to solve the problem in the context of a DTC or Antimicrobial Subcommittee.

- What strategy will you use to solve the antibiotic use problem? How will you utilize the DTC (if it exists) to lead or support the process?
- How will you monitor your strategy?
- What may be the potential barriers in implementing your strategy?

Seventh Component: 5 minutes  
VAs 39–42: Summary

Certainly, antimicrobial medicines have greatly contributed to the decline in morbidity and mortality due to infectious diseases over the past half-century. This achievement is being undermined, however, by the rapidly growing problem of AMR. The World Health Organization
has identified the DTC has an important intervention mechanism to manage and contain AMR in hospitals.

A DTC can do much to contain AMR, such as setting up programs and interventions to identify antimicrobial use problems and implementing specific interventions to improve the prescribing, use, and management of antimicrobials.

Stress the main strategies to contain AMR highlighted above. Point out that all the strategies actually consist of developing guidelines and protocols concerning how antimicrobial medicines should be used and taking measures to ensure that everyone complies with these guidelines. Critical to the success is that monitoring and surveillance of use and resistance are undertaken and that all stakeholders be involved in the development and implementation of interventions.