Faculty Roadmap

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Background:
The IDSA Core Antimicrobial Stewardship (CAS) Curriculum was developed to provide infectious diseases (ID) fellows with foundational education and training in antimicrobial stewardship (AS), regardless of ultimate career plans. The curriculum was designed for use within an existing ID fellowship training program in response to a needs assessment of ID Training Program Directors and to ensure the future ID workforce is equipped to oversee and participate in AS efforts. While the curriculum was designed for adult ID fellows, other learners (e.g. pediatric ID fellows, ID pharmacy residents, practicing ID physicians and pharmacists, medicine residents, and Advanced Practice Providers) desiring education and training in AS will benefit from curricular materials and may adapt them to their own needs. **NOTE: Learners are referred to as “stewards-in-training” throughout the curriculum.**

**CAS Curriculum Learning Objectives:**
Upon completion of the CAS Curriculum, stewards-in-training will be able to:

1. Explain to patients and health care providers the importance of antibiotic stewardship in the care of individual patients and the community at large

2. Model antibiotic stewardship best practices during the clinical care of patients in the inpatient and outpatient setting

3. Structure a conversation to effect change in the antibiotic prescribing patterns of other providers using techniques based in behavioral psychology

4. Describe elements of an effective antibiotic stewardship program and explain the inter-professional collaborations and leadership support necessary for its success

5. Discuss antibiotic stewardship as a potential career pathway and explain the day-to-day activities of the antibiotic steward

**Faculty Participation**
The curriculum is designed for use within an existing training program and will be most effective when combined with direct involvement from faculty at the home institution so that stewards-in-training can benefit from faculty expertise and feedback, capitalize on mentoring relationships, and apply AS concepts to real-world clinical scenarios.

There should be a faculty champion for the entire AS curriculum who is familiar with AS concepts and the existing training program educational structure, and is also an identified resource for stewards-in-training. This faculty champion could be the ID training program director, the AS medical director, or another faculty member. He or she should become familiar with the various components of the IDSA CAS Curriculum and should oversee its implementation in the existing training program.

A faculty lead should be identified for each section of the curriculum. The faculty lead can deliver CAS curriculum content, facilitate small group discussions, follow-up on progress through the curriculum, answer questions that may arise from the CAS curriculum, recommend additional learning opportunities for stewards-in-training who desire enrichment and further education, and/or perform assessments of competence in AS.

**NOTE: Even if stewards-in-training are instructed to complete a portion of the curriculum solely via eLearning modules, a faculty lead should be specifically identified and available as a resource.**
In order to reinforce CAS curriculum concepts, all faculty in a given division or department at a participating institution should be briefed on the CAS curriculum and provided with a copy of the AS Clinical Teaching Tool. The AS Clinical Teaching Tool provides an important mechanism to reinforce AS concepts into clinical practice and integrate AS into routine patient care. The tool can be used by any faculty member, including those who do not have specific expertise in AS. Programs may also choose to have faculty evaluate stewards-in-training in their AS communication skills in the clinical setting using the NARROWS scoring rubric (Section 3).

**When to implement:**

While training programs vary considerably with regard to educational and clinical activities, strong consideration should be given to implementing the CAS curriculum during the first year of training. This will allow stewards-in-training who wish to pursue a career in AS to use future training years to further develop and refine their skills in AS.

**Time Commitment:**

The amount of time that each steward-in-training will need to complete each section will vary, but approximately 45 min -1 hour should be allocated for section 1, 90 min -2 hours for section 2, 1-2 hours for section 3, and 4 -5 hours for section 4. Optional enrichment exercises such as the Clinical teaching tool and evaluation tools can be readily incorporated into the clinical setting in 5-10 minute increments. Additional time may be necessary for stewards-in-training to read background information and resources if they are unfamiliar with certain concepts or if they would like to explore a given topic in more depth. The evaluation components of this curriculum will also involve limited additional time for both the steward-in-training and faculty. Faculty preparation time will vary based on the familiarity with certain concepts, but is estimated to be 30 minutes to an hour per section.

**Curriculum Components:**

**Five Main Sections:**

The CAS Curriculum is comprised of five main sections:

- An Introduction to the Antimicrobial Stewardship Curriculum for Faculty
- Section 1: An Introduction to AS
- Section 2: AS in Everyday Practice
- Section 3: Educating and Coaching on AS, and
- Section 4: AS Program Logistics

**An An Introduction to the Antimicrobial Stewardship Curriculum for Faculty** should be completed first, followed by **Section 1: An Introduction to AS.** The other sections can be completed in an order and interval that best fits into the existing ID training program’s educational structure.
Application and Reinforcement Tools:

Concepts that were covered in the CAS curriculum can be reinforced using distinct components of the curriculum such as the core concepts handout, five clinical “pearls” pocket cards, and additional reading/resources. The AS Clinical Teaching Tool can be distributed to both faculty and stewards-in-training to apply and reinforce AS principles into everyday clinical practice. In Section 3, you will find a “NARROWS” pocket card that can prompt stewards-in-training on communication strategies to positively influence the prescribing habits of others in the clinical setting.

Evaluation tools:

Assessments and knowledge checks are embedded in each section. Additional assessments can be performed in the clinical setting to assess the application of AS principles to real patient care scenarios. The AS Clinical Teaching Tool reinforces principles of AS in everyday practice and can be used to provide formative feedback to stewards-in-training any time after Section 1: An Introduction to AS is completed. An evaluation tool (the NARROWS scoring rubric) reinforces AS-related communication skills and can be used in the clinical setting as a mini-CEX after Section 3: Educating and Coaching on AS is completed.

CAS Curriculum Implementation:

All stewards-in-training must complete a brief “Introduction to the Core Antimicrobial Stewardship (CAS) Curriculum” module through either the Learning Management System or face-to-face with their AS Faculty Champion. Stewards-in-training will also have a designated user guide to introduce them to the curriculum.

Upon enrollment, stewards-in-training will have access to ALL eLearning components of the curriculum, however, training programs can choose which method of curriculum delivery they’d like the stewards-in-training in their program to complete. For each section, there is an eLearning option and a face-to-face method available. If a steward-in-training uses an eLearning module, their progress through the curriculum will be tracked automatically. If a module is completed using the face to face delivery format, a faculty member (with access to the curriculum) will need to log into the LMS to indicate session completion within your enrollment group. Methods of curriculum delivery can be combined and should be customized based on a training program’s existing resources and structure. On the last page of this guide, you will find more information about additional guides/tools to help you design your own AS Curriculum.

For any questions or concerns about the AS Curriculum, please contact:

Vera P. Luther, MD, FIDSA
Chair, IDSA AS Curriculum Workgroup
Associate Professor of Medicine
Director, Infectious Diseases Fellowship Program
Associate Medical Director, Antimicrobial Stewardship
Wake Forest School of Medicine
vluther@wakehealth.edu

Rachel Shnekendorf, MPH
Director of Education
Infectious Diseases Society of America
t. 703-299-0879
rshnekendorf@idsociety.org

For AS curriculum technical support, please e-mail academy@idsociety.org
An Introduction to the Antimicrobial Stewardship Curriculum for Faculty

This introductory section provides faculty with a video, learning objectives, guides/resources and additional material to start planning how and when to implement curriculum components.

Section 1: Introduction to Antimicrobial Stewardship

Upon completion of this section, stewards-in-training will be able to:

- Define antimicrobial stewardship, its programmatic goals, and key strategies to achieve the goals
- Relate trends and patterns between antimicrobial use and resistance
- Recognize adverse events associated with the use of specific antimicrobials, including the risk for development of C. difficile infections
- Describe the role of clinical and laboratory diagnostic tools in improving antimicrobial use
- Define expected outcomes of an ASP

Content in this section is available through (3) eLearning modules or (3) video presentation slides. The 3 modules include:

Module 1: An introduction to Antimicrobial Stewardship
Module 2: A Brief Overview of the side effects of antibiotics
Module 3: The Essential Role of the Clinical Lab & Diagnostic Tools

If content is delivered using the video presentation, faculty can present in person to stewards-in-training at their institution. There is a handout highlighting core AS concepts that are introduced in this section. Knowledge check questions embedded in the eLearning and video presentations provide a mechanism to assess understanding of concepts.
Section 2. Antimicrobial Stewardship in Everyday Practice

Upon completion of this section, stewards-in-training will be able to:

- Judge when to recommend formal ID consultation or AS intervention
- Recognize the major “infectious diseases syndromes” where antimicrobials are over- and misused in acute care inpatient and outpatient settings, and the stewardship techniques to improve prescribing for these infections
- Identify common process and outcome measures/metrics
- Compare and contrast effective AS techniques in the inpatient vs. outpatient settings

Content in this section is available through (5) case-based eLearning modules or pdf documents that can be used during small group discussions. The 5 modules include:

AS in Everyday Practice: A Clinic Visit Case
AS in Everyday Practice: The Antibiotic Approval Request Case
AS in Everyday Practice: The Curbside Call Case
AS in Everyday Practice: The Prospective Audit and Feedback Case
AS in Everyday Practice: The Rapid Diagnostic Dilemma Case

The cases are based on common ID clinical scenarios and highlight specific AS practices in routine clinical care. Each of the 5 cases has formative questions embedded in the case, suggestions for applying concepts to the steward-in-training’s institution, and a “clinical pearls” pocket card for reference.

Stewards-in-training are encouraged to complete at least 3 AS debriefing activities with their supervising faculty during routine patient care using the AS Clinical Teaching Tool.

The AS Clinical Teaching Tool reinforces principles of AS in everyday practice and can be used to provide formative feedback to stewards-in-training any time after an “Introduction to AS” is completed.
Section 3. Educating and Coaching on Antimicrobial Stewardship

Upon completion of this section, stewards-in-training will be able to:

- Explain key behavioral psychology concepts that influence antimicrobial prescribing
- Propose effective techniques to change antimicrobial prescribing practices
- Use provider education techniques to effect change in antimicrobial prescribing
- Demonstrate communication skills to influence antimicrobial prescribing habits of others

Content in this section is available through 3 communication skills scenarios that are available through eLearning or PDF documents that can be used for role play. Ideally, before starting this section, stewards-in-training will read a brief primer on AS-related communication skills and behavioral psychology.

The 3 modules include:

**Scenario 1: Deference to Seniority**
**Scenario 2: Overly Broad Empiricism**
**Scenario 3: De-escalation and the Outlier Prescriber**

Then, faculty will lead one or more small group discussions while working through the eLearning modules as a group. Several alternative methods can be pursued for content delivery in section 3.

For example, faculty may choose to distribute PDF documents for stewards-in-training to use as role-play scripts to use in lieu of the videos during the small group discussion. Whether you choose to watch the video scenarios or conduct role play scenarios, be sure to cover the concepts in the role play debriefing slides. Finally, if faculty resources are unavailable, stewards-in-training may complete the eLearning modules on their own.

This section contains a NARROWS mnemonic and reference pocket card to help stewards-in-training structure and remember AS communication skills to positively influence the prescribing habits of others. Assessments of stewards-in-training can be performed in the small group setting using the NARROWS scoring rubric. A NARROWS mini-CEX can also be used in the clinical setting, both as a coaching tool and to assess AS communication skills after Section 3: Educating and Coaching on AS is completed.
Section 4. Antimicrobial Stewardship Program Logistics

Upon completion of this section, stewards-in-training will be able to:

• Describe key steps in establishing an ASP
• Identify multidisciplinary collaborations necessary for the success of an ASP
• Describe how to implement the core elements of ASPs into practice
• Recognize regulatory and reporting aspects of ASPs
• Describe AS quality improvement and patient safety activities
• Recommend strategies for responding to antimicrobial shortages

Content in this section is available through 2 activities.

The first activity is an antibiotic shortage simulation exercise entitled: 
Shortage Mitigation of Antibiotics in Real Time (SMART).

The second activity in this section is the: 
Reflective Observation, Brief Interview, and Notation (ROBIN) exercise.

SMART Exercise Preparation:

Stewards-in-training should prepare for the shortage exercise by researching the SMART preparation questions. Faculty can distribute the questions and provide a brief primer on the activity or stewards-in-training can access the questions and brief primer via the eLearning module. Ideally, several hours to a week later, faculty will lead a small group exercise while working through the eLearning module as a group. Alternatively, faculty can lead the small group exercise without the eLearning module and can use PDF documents to guide discussion.

New to the 2019 CAS Curriculum:

At IDWeek 2018, several ID leaders in antimicrobial stewardship along with several “stewards-in-training”, conducted the SMART Exercise in person. This activity, captured through video and audio, is now available for fellows/trainees to review on their own or led as a group by faculty.

ROBIN Exercise Preparation:

For this component of the curriculum, stewards-in-training will prepare for the exercise with a brief primer on medical staff governance and activity instructions using either the eLearning module or PDF documents that are distributed by faculty. After meeting with their CAS faculty champion, stewards-in-training will plan to either attend 2 leadership activities (such as AS or Infection Prevention meetings) or interview 2 medical staff leaders. Stewards-in-training will then prepare a one-page write up of their impressions.

Faculty should evaluate the written reflection piece using the ROBIN evaluation tool.
Faculty Resources

All Program Directors or designated “Antimicrobial Stewardship Champions” will be assigned a different course from stewards-in-training. The faculty course contains all of the Faculty resources within the IDSA Learning Management System (LMS). Stewards-in-training will not have access to that particular course and will not see it listed when they log in alongside the other five main courses.

Faculty should be able to see ALL of the eLearning modules, video presentations, along with the correlating documentation such as role play scenarios, scoring rubrics, etc.

The “An Introduction to the Antimicrobial Stewardship Curriculum for Faculty” section must be completed beforehand so that you have an overview of the what makes this curriculum unique, how to incorporate this curriculum, and should answer any additional questions that you may have. You also have this resource guide to reference as well.
Accessing the Learning Management System:

You can access the curriculum by logging into the address below:
https://academy.idsociety.org/

To access the curriculum within the LMS, you must create an account if one does not already exist. If you already have an existing login for your IDSA membership account, you can login with those same credentials.

There are two main things you should know when accessing the curriculum:

1. How to navigate and use the “2019 Core Antimicrobial Stewardship Curriculum for Faculty” and
2. Mark your fellows/trainees complete after certain “face to face/small group” sessions are finished

Accessing the Curriculum:

After logging in, you can locate the “2019 Core Antimicrobial Stewardship Curriculum for Faculty” at the very top of the LMS.

Start by clicking “My Account” and then “My Courses”.

You should then see another set of tabs below. You can log in and always find the faculty course under “Completed/Pending activities” because there is no tracking of completion with the faculty course.

It is mandatory that you must first complete “An Introduction to the Antimicrobial Stewardship Curriculum for Faculty”. You can then select your order of choice for the following sections although it is suggested to at least cover “Section 1: Introduction to Antimicrobial Stewardship” first.

Each user will also receive e-mail confirmation about enrollment to the course and can use the links within the e-mail to access the course as well.
Section/Module Navigation

Start by clicking on the Section of your choice.

You will arrive at the course landing page that will provide you with learning objectives, methods of delivery, and some of the documents related to the entire section at the bottom.

When you are ready to get started, click “Take Course”

You will then enter the section and can begin further navigation through the left hand side.

Click the circle you would like to display and then click “Start”

In the window to the left, next click “Launch” to open (it will display in a new window)

Note: Specific documents related to the button you just selected, are available next to the launch button to display more easily.

Because the faculty course is a “toolbox” of sorts, all of the eLearnings and video presentations will be labeled “optional”.

Note: At the bottom of the left hand navigation, you will find all of the links and reference information for the entire Section. This may be helpful when planning and revisiting sections.
Understanding eLearning/video presentation modules

Menu:
Displays the title of each slide on the left hand side.

Notes:
Perfect if you are unable to listen to the audio. You can read the audio “Notes” instead. **NOTE: For some slides, the notes will not change and you should read the text on the screen instead.**

Resources:
Throughout the eLearning module, you may be prompted to click on the Resources button in the upper right hand corner. Resources contains various links to documents and other websites that can help to expand your knowledge.

Volume:
Click here to adjust the sound volume.

Scrollbar:
Use the scrollbar to stop and start throughout the module. Some slide layers cannot be paused and you should restart the entire slide to review.

Buttons:
Click “Next” and “Previous” to move forwards and backwards within the module. Some buttons will be found inside of the screen to proceed.

You will notice in the left hand navigation that some sections have “video” options. This can be treated more like a lecture presentation without the audio and additional features of the eLearnings.

The Resources tab is still available and you can click the arrows in the bottom right hand corner to navigate.
Tracking progress and granting credit for fellows/trainees

If you have chosen to conduct a small group/face to face session with your fellows/trainees instead of them completing an individual eLearning; all faculty members with access to the curriculum, can grant them attendance credit.

All of the eLearnings must be viewed in their entirety or attendance credit given in order for the learning management system to generate the fellow/trainee a certificate of completion at the end.

Read further to learn how and where you must grant attendance credit.

Upon purchase of the curriculum, every institution was given an enrollment group. This group allows faculty members within the group to track the completion status of the fellows/trainees, along with grant them credit for small group/face to face sessions.

To get to your enrollment group within the LMS, go to my account and scroll down to the very bottom. You should then see a link to your specific enrollment group.

Once you are inside the enrollment group, in the bottom left hand corner, you should see an option for “Courses”. Select that item.

The screen should now display the faculty course and the fellows course. Since attendance credit is only used for the fellows course, you only see the individual sub sections for the fellow course.
Select “manage” next to the section for which you would like to grant credit.

Keep in mind that you can only grant credit for entire sections, not individual modules.

Select the checkbox next to the name of the fellow/trainee(s) for whom you wish to grant credit. Then select the “Edit enrollment” button.

Once inside, scroll down and set the completion status to either “complete” or “incomplete”. You can also choose to add the date and time that it was completed as well.

You will then be asked to confirm that you want to grant attendance credit for the following fellows/trainees. Click “confirm”.

Back at the enrollment screen, you will then see that the completion date has been modified.

Completion data will be shown here for fellows/trainees who complete the eLearnings on their own as well.
**Evaluation & Survey Components**

In order to complete participation of the CAS Curriculum, the Evaluation team is conducting research for both Program directors or Antimicrobial Stewardship Champions along with Stewards - in - Training.

The Evaluation goals are as follows:

**Objective 1:** To assess how Infectious Disease fellows’ knowledge, attitudes, and practices regarding antimicrobial stewardship (AS) change as a result of the IDSA AS curriculum.

**Objective 2:** To explore how Infectious Disease fellows’ attitudes towards a career in AS are impacted by the IDSA AS curriculum.

**Objective 3:** To identify barriers and facilitators to implementation of the IDSA AS curriculum at the program and individual level.

**Objective 4:** To determine if perceptions of programs’ current AS curriculum differ between fellows, program directors, and AS champions.

**For Program Directors & Antimicrobial Stewardship Champions:**

The CAS Curriculum faculty course contains a mandatory faculty post survey questionnaire at the end of the curriculum that should be completed after successfully completing the curriculum with fellows/trainees. This information will allow the Evaluation team to describe how all of the programs are using the curriculum. The survey contains questions about the demographics of their training program, the current AS curriculum, plans for implementation of the IDSA AS curriculum, and perceptions of fellows’ knowledge and skills in AS.

**For Stewards - in - Training:**

The 2019 Core Antimicrobial Stewardship Curriculum for fellows contains both a pre and post survey questionnaire that must be completed in order to receive the certificate of completion at the end. The surveys contain questions on AS knowledge, attitudes, and practices in addition to basic demographic information and career interests.
Customize your Curriculum

To assist faculty and antimicrobial stewardship champions with their implementation plan, a couple of additional resources were developed especially for faculty.

First, a **Curriculum Planner:**

This document allows you to choose your method of delivery for each Section/module along with assign and track dates of completion.

It can be easily saved and distributed to fellows/trainees so they are made aware of expectations and can plan appropriately with pre-reading, etc.

Second, a **Faculty Checklist:**

This document helps faculty members think through their implementation approach and provides a checklist of all the items you may need to print, document, and plan for before starting the curriculum and before presenting each section/module.

Many of the items have pre-populated drop downs, but the form also allows you to type in your own information as well.