



ProCE, Inc.  
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# *Antimicrobial Stewardship*

## *A Certificate Program for Pharmacists*

### **Certificate Program Description and Audience**

The Antimicrobial Stewardship Certificate Program is an innovative and intensive practice-based activity for pharmacists focusing on the pharmacist's role in the area of appropriate use of antimicrobial agents. The program, which emphasizes a health care team approach, seeks to foster the development of a strong knowledgebase in microbiology, pharmacology and disease state management in order to successfully implement an antimicrobial stewardship program that will improve patient care, reduce healthcare expenditures and potentially reduce rates of resistance and prolong the longevity of the limited number of antimicrobial agents available to treat infections. Established in 2010, the SIDP Antimicrobial Stewardship Certificate Program has been a resource for pharmacists world-wide in meeting their educational needs for antimicrobial stewardship.

### **Antimicrobial Stewardship Certificate Program Development**

The Antimicrobial Stewardship Certificate Program was developed by members of The Society of Infectious Diseases Pharmacists (SIDP). All members volunteered their time and knowledge in developing the content of this program. There was no outside financial support for developing this program.

### **Antimicrobial Stewardship Certificate Program Goals**

The certificate program goals/learning objectives are the following:

1. Outline the essentials of clinical microbiology, pharmacology, pharmacokinetics, pharmacodynamics, and infectious disease state management necessary in Antimicrobial Stewardship.
2. Identify the skills needed to establish an antimicrobial stewardship program.
3. Implement interventions to improve patient care, minimize resistance and cost, and prolong the longevity of antimicrobials through a cap-stone project.
4. Explain how to evaluate the effectiveness of an antimicrobial stewardship program through the measurement of outcomes.
5. Define the interaction between pharmacy and infection control.

### **Antimicrobial Stewardship Certificate Program Structure**

The Antimicrobial Stewardship certificate training program is conducted in three parts. Each part must be completed prior to starting the next one.

- Phase 1. Self-study learning component available online (approx. 3 months)
- Phase 2. Live webinars (approx. 5 months)
- Phase 3. Skills component completed in the practice setting (approx. 4 months)

A Certificate of Achievement will be awarded to participants who successfully complete all three program components. Participants who successfully complete the program will be eligible for a 1 year free associate membership in SIDP.

### **Self-Study Learning Component (Phase 1)**

The first component of the certificate training program consists of seven sections of self-study modules available for viewing online. Topics, learning objectives, and length of time to complete each self-study module are noted on the outline below.

## Module 1 – Microbiology

1a - *Staphylococcus species* (ACPE UAN: 0221-9999-17-329-H01-P, Knowledge-based, 0.25 contact hour, Release: 7/7/2017, Exp: 7/1/2020)

- Explain the Gram-stain & morphology of various bacteria
- Discuss commensal flora in the body and where select organisms are pathogenic
- List agents with activity or should be considered for use against various organisms
- Discuss resistance issues associated with various organisms

1b-Streptococcus & Enterococcus (ACPE UAN: 0221-9999-17-431-H01-P, Knowledge-based, 0.5 contact hour, Release: 11/1/2017, Exp: 9/15/2019)

- Explain the Gram-stain & morphology of various bacteria
- Discuss commensal flora in the body and where select organisms are pathogenic
- List agents with activity or should be considered for use against various organisms
- Discuss resistance issues associated with various organisms

1c-Non Fermenters (ACPE UAN: 0221-9999-18-089-H01-P, Knowledge-based, 0.5 contact hour, Release: 3/16/2018, Exp: 7/1/2020)

- Explain the gram-stain and morphology of *Acinetobacter*, *Pseudomonas*, and *Stenotrophomonas maltophilia*
- Discuss the epidemiology of *Acinetobacter*, *Pseudomonas*, and *Stenotrophomonas maltophilia*
- List agents with activity or should be considered for use against *Acinetobacter*, *Pseudomonas*, and *Stenotrophomonas maltophilia*
- Discuss resistance issues associated with *Acinetobacter*, *Pseudomonas*, and *Stenotrophomonas maltophilia* and the roll of combination therapy

1d-Enterobacteriaceae (ACPE UAN: 0221-9999-17-433-H01-P, Knowledge-based, 0.5 contact hour, Release: 11/1/2017, Exp: 9/15/2019)

- Discuss commensal flora in the body and where select organisms are pathogenic
- List agents with activity or should be considered for use against various gram-negative bacilli
- Discuss resistance issues associated with various organisms

1e-Haemophilus, Moraxella, Neisseria, Atypical Organisms (ACPE UAN: 0221-9999-17-434-H01-P, Knowledge-based, 0.5 contact hour, Release: 11/1/2017, Exp: 9/15/2019)

- Explain the gram-stain and morphology of various bacteria.
- Discuss commensal flora in the body and where select organisms are pathogenic.
- Explain the various types of infections.
- List agents with activity or should be considered for use against various organisms.
- Discuss resistance issues associated with various organisms.

1f-Anaerobes (ACPE UAN: 0221-9999-17-435-H01-P, Knowledge-based, 0.5 contact hour, Release: 11/1/2017, Exp: 9/15/2019)

- Explain the gram-stain and morphology of various bacteria
- Discuss commensal flora in the body and where select organisms are pathogenic
- Explain the various types of infections
- List agents with activity or should be considered for use against various organisms
- Discuss resistance issues associated with various organisms

1g-Fungi (ACPE UAN: 0221-9999-17-436-H01-P, Knowledge-based, 0.5 contact hour, Release: 11/1/2017, Exp: 9/15/2019)

- Recognize the differences between yeasts, molds, and dimorphic fungi
- Describe the activity of antifungals against key fungal pathogens
- Discuss challenges that are inherent to antifungal pharmacotherapy

## Module 2 – Pharmacology

2a-Antimicrobial Pharmacology I (ACPE UAN: 0221-9999-17-437-H01-P, Knowledge-based, 0.75 contact hour)

2b-Antimicrobial Pharmacology II (ACPE UAN: 0221-9999-17-438-H01-P, Knowledge-based, 1.0 contact hour)

2c-Antimicrobial Pharmacology III (ACPE UAN: 0221-9999-17-439-H01-P, Knowledge-based, 0.25 contact hour)

*Antimicrobial Pharmacology (I, II, III)* learning objectives (Release: 11/1/2017, Exp: 9/15/2019):

- Explain the principals of anti-infective pharmacology
- Describe the classifications of anti-infectives including mechanisms of action, mechanisms of resistance, spectrum of activity, infections commonly treated, adverse effects (most common, very serious or unique), and drug interactions
- Select and discuss rationale for drugs of choice for various organisms

## Module 3 – Pharmacokinetics/Pharmacodynamics

3a-Pharmacokinetics Primer for Clinicians (ACPE UAN: 0221-9999-17-371-H01-P, Knowledge-based, 0.75 contact hour, Release: 9/15/2017, Exp: 9/15/2019)

- Describe pharmacokinetics (PK) and the clinical application of PK parameters in daily clinical practice.
- Describe physiologic factors and disease states that affect drug disposition throughout the body.

3b-Introduction to Antimicrobial Pharmacodynamics (ACPE UAN: 0221-9999-17-372-H01-P, Knowledge-based, 1.0 contact hour, Release: 9/15/2017, Exp: 9/15/2019)

- Discuss pharmacodynamics (PD) and the basic laws governing its application into clinical practice.
- Discuss the various *in vitro*, *in vivo*, and clinical testing methodologies used to derive PD breakpoints.

- Demonstrate knowledge of the PD parameters that optimize the efficacy of each antimicrobial agent and the published data used to derive the currently accepted PD breakpoints.
- Describe Monte Carlo Simulation (MCS), the rationale behind performing this analysis, interpretation of the results, and the limitations associated with these analyses.

3c-Applied Antimicrobial Pharmacodynamics (ACPE UAN: 0221-9999-17-373-H01-P, Knowledge-based, 0.75 contact hour, Release: 9/15/2017, Exp: 9/15/2019)

- Describe Monte Carlo simulation (MCS), the rationale behind performing this analysis, interpretation of the results, and the limitations associated with these analyses.
- Provide examples that correlate data generated from MCS analyses and clinical outcome data generated from real patients.
- Evaluate unconventional dosing strategies used to maximize the pharmacodynamics (PD) of currently available antimicrobials.

3d-Antifungal pharmacodynamics (ACPE UAN: 0221-9999-17-374-H01-P, Knowledge-based, 0.5 contact hour, Release: 9/15/2017, Exp: 9/15/2019)

- Describe pharmacokinetics (PK) and the clinical application of PK parameters in daily clinical practice.
- Describe physiologic factors and disease states that affect drug disposition throughout the body.
- Discuss pharmacodynamics (PD) and the basic laws governing its application into clinical practice.
- Discuss the various *in vitro*, *in vivo*, and clinical testing methodologies used to derive PD breakpoints.
- Demonstrate knowledge of the PD parameters that optimize the efficacy of each antimicrobial agent and the published data used to derive the currently accepted PD breakpoints.
- Evaluate unconventional dosing strategies used to maximize the PD of currently available antimicrobials.
- Examine the rationale supporting therapeutic drug monitoring for available antifungal agents.

## Module 4 – Disease States and Treatments

4a-Bone & Joint Infections (ACPE UAN: 0221-9999-18-088-H01-P, Knowledge-based, 1.0 contact hour, Release: 3/14/2018, Exp: 7/1/2020)

- Categorize joint infections - septic arthritis and prosthetic joints
  - Identify patient presenting symptoms.
  - List common causative organisms
  - Describe correlation with osteomyelitis.
  - Define appropriate antimicrobial therapy.
- Differentiate classifications of osteomyelitis - hematogenous and contiguous osteomyelitis
  - List common causative organisms.
  - Suggest appropriate antimicrobial regimens for each category.
  - Identify criteria and appropriate candidates for oral therapy

4bc-Lower Respiratory Tract Infections (ACPE UAN: 0221-9999-17-154-H01-P, Knowledge-based, 3.0 contact hours, Release: 5/24/2017, Exp: 5/24/2020)

- Review the national guideline recommendations for community-acquired (CAP), hospital-acquired (HAP), and ventilator-associated (VAP) pneumonia
- List the most common bacterial pathogens associated with CAP, HAP, and VAP
- Identify the risk factors for multidrug-resistant pathogens
- Discuss selection of empiric therapy and de-escalation for CAP, HAP, and VAP
- Describe the role for antimicrobial stewardship in ensuring optimal management of pneumonia

4d-Skin/Soft Tissue Infections (ACPE UAN: 0221-9999-17-328-H01-P, Knowledge-based, 1.5 contact hour, Release: 7/7/2017, Exp: 7/1/2020)

- Describe pathophysiology / predisposing factors for skin/soft tissue infections (SSTIs).
- Recognize clinical presentation and monitoring considerations
- List primary pathogens associated with skin and soft tissue infections.
- Discuss appropriate antimicrobial therapy for SSTIs.

4e-*Clostridium difficile* Infection (ACPE UAN: 0221-9999-17-375-H01-P, Knowledge-based, 1.5 contact hours, Release: 9/15/2017, Exp: 7/1/2020)

- Explain why CDI is a burden in both inpatient and outpatient settings.
- Identify major risk factors for CDI.
- Discuss rational approaches to the management of initial and recurrent symptomatic CDI.
- Compare and contrast strategies for preventing CDI.

4f-Management of Sepsis (ACPE UAN: 0221-9999-17-376-H01-P, Knowledge-based, 0.5 contact hour, Release: 9/15/2017, Exp: 7/1/2020)

- Differentiate between systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis, and septic shock.
- Describe and sequence the following interventions in the order they should be generally considered/implemented in the management of septic shock: antimicrobial therapy, fluid resuscitation, stress ulcer prophylaxis, glucose control, initiation of vasopressors, and anti-thrombolysis

4g-Management of Invasive Candidiasis (ACPE UAN: 0221-9999-17-377-H01-P, Knowledge-based, 0.5 contact hour, Release: 9/15/2017, Exp: 7/1/2020)

- Recommend an appropriate initial antifungal agent for a patient with suspected invasive candidiasis pending definitive species identification.
- Recommend an appropriate antifungal agent for a patient with invasive candidiasis based on the species of *Candida* identified.
- Discuss considerations for treatment duration and monitoring for patients with candidemia.

- Describe populations where prophylaxis and empiric treatment for invasive candidiasis should be considered.

4h-Bacterial Endocarditis (ACPE UAN: 0221-9999-17-155-H01-P, Knowledge-based, 1.0 contact hour, Release: 5/24/2017, Exp: 5/24/2020)

- Review the epidemiology and pathophysiology of endocarditis
- Identify endocarditis risk factors and potential complications
- Recommend antibiotic therapy based on culture confirmed microbiology data
- Discuss required antimicrobial prophylaxis for infective endocarditis

4i-Meningitis (ACPE UAN: 0221-9999-17-440-H01-P, Knowledge-based, 0.75 contact hour, Release: 11/1/2017, Exp: 9/15/2019)

- Review the epidemiology and microbiology of meningitis
- Describe the clinical presentation and diagnosis of meningitis
- Select appropriate antibiotic therapy for meningitis based on risk factors and the presumptive or culture confirmed microorganism
- Identify options for the prevention of meningitis

4j-Intravascular Catheter-Related Blood Stream Infections (ACPE UAN: 0221-9999-17-441-H01-P, Knowledge-based, 1.0 contact hour, Release: 11/1/2017, Exp: 9/15/2019)

- Design an appropriate empiric treatment regimen for a patient with a suspected catheter-related blood stream infection (CRBSI) based on patient-specific risk factors.
- Develop a definitive treatment plan for CRBSIs caused by various common pathogens.
- Determine when catheter removal is an essential element of the treatment plan for treating a specific CRBSI.

4k-Intra-Abdominal Infections (ACPE UAN: 0221-9999-17-442-H01-P, Knowledge-based, 0.75 contact hour, Release: 11/1/2017, Exp: 9/15/2019)

- List the common pathogens associated with primary, secondary, and tertiary peritonitis
- Design appropriate empiric treatment regimens for common intra-abdominal infections

4l-Urinary Tract Infections (ACPE UAN: 0221-9999-17-339-H01-P, Knowledge-based, 0.75 contact hour, Release: 7/26/2017, Exp: 7/1/2020)

- Describe and define Urinary tract infections associated in the hospital setting

- Describe the epidemiology, microbiology and treatment of acute pyelonephritis, catheter associated UTI and asymptomatic bacteriuria

### Module 5 - Interventions

(ACPE UAN: 0221-9999-17-443-H01-P, Knowledge-based, 1.5 contact hours, Release: 11/1/2017, Exp: 9/15/2019)

- Describe the benefits and process of de-escalation interventions.
- Review data suggesting when shorter durations of antimicrobial therapy may be appropriate.
- Introduce the concept of rapid laboratory testing methods as an aid to antimicrobial stewardship interventions

### Module 6 – Measuring Outcomes

(ACPE UAN: 0221-9999-17-444-H01-P, Knowledge-based, 2.25 contact hours, Release: 11/1/2017, Exp: 9/15/2019)

#### Clinical Outcomes

- Identify the types of adverse drug events associated with indiscriminant antibiotic usage.
- List variables of interest that Stewardship Programs can impact and quantify.
- Categorize the types of studies utilized in measuring outcomes of Antimicrobial Stewardship Programs.
- Identify candidates for IV to PO conversion.

#### Economical Outcomes

- Compare and contrast different ways to present economical outcomes from a Stewardship Program.
- Determine the most appropriate economical outcomes to evaluate for a Stewardship Program.

#### Resistance Outcomes

- Describe the utility of measuring resistance for Antimicrobial Stewardship.

#### Prioritization of program components

- Discuss the common elements of stewardship programs.
- Prioritize program components based on available resources for smaller vs. larger institutions.

### Module 7 – Infection Control

(ACPE UAN: 0221-9999-17-156-H01-P, Knowledge-based, 0.5 contact hour, Release: 5/28/2017, Exp: 5/28/2020)

- Discuss the goals of infection control programs and the types of infection prevention efforts that are often employed.
- Indicate which types of Multiple Disease Resistant Organism (MDRO) infections are frequently identified in small hospitals.
- Describe a small hospital Infection Control program.

### Live Webinar Sessions (Phase 2)

The second component of the certificate training program consists of completing a minimum of four live webinar sessions (1.5 hours each) listed below. You may also attend all live webinars and receive additional continuing pharmacy education credit for the other three topics. The live webinars will be offered quarterly and times for all sessions will be viewable after all Self-Study content is completed. We reserve the right to cancel a live webinar. In

the event of a live webinar cancellation, each participant will be notified via e-mail along with the rescheduled date. Topics and learning objectives for each live webinar session are:

#### **I. Implementation of an Antimicrobial Stewardship Program: Justification, Cost, and Challenges**

(ACPE UAN: 0221-9999-15-265-L04-P Knowledge-based, Release: 10/15/2015, Expiration: 10/15/2018)

- Describe the resources necessary to initiate an antimicrobial stewardship program.
- Identify potential financial and institutional barriers to implementation of an antibiotic stewardship program.
- Describe how to justify the benefits of an antimicrobial stewardship program to administrative and clinical leadership.

#### **II. Understanding the Hospital Antibigram**

(ACPE UAN: 0221-9999-15-266-L04-P Application-based, Release: 10/15/2015, Expiration: 10/15/2018)

- List the CLSI M39 guidelines for antibiogram development
- Discuss how to utilize a hospital antibiogram to guide empiric antibiotic selection and to detect bacterial resistance patterns
- Discuss how rates of MRSA, VRE, and other resistant organisms can be calculated using antibiogram data
- Describe how individual and hospital antibiograms may be used to foster prudent antimicrobial prescribing and optimize antimicrobial stewardship

#### **III. Multidrug Resistant Organisms: Detection, Epidemiology, and Management**

(ACPE UAN: 0221-9999-15-267-L01-P Knowledge-based, Release: 10/15/2015, Expiration: 10/15/2018)

- Discuss the mechanisms of resistance behind common multidrug resistant (MDR) pathogens.
- Describe the microbiology challenges associated with the identification of multidrug-resistant bacteria.
- Discuss the prevalence and epidemiology of multidrug resistant bacteria.
- Describe the current evidence-based strategies in the management of invasive multidrug resistant bacteria.

#### **IV. Antimicrobial Stewardship and Microbiology: Focus on Rapid Diagnostic Tests**

(ACPE UAN: 0221-9999-15-268-L04-P Knowledge-based, Release: 10/15/2015, Expiration: 10/15/2018)

- Discuss the various rapid diagnostic technologies
- Evaluate the use of rapid diagnostic technologies on patient outcomes
- Determine considerations during the pre-implementation, implementation, and post-implementation phases of rapid diagnostic technologies

#### **V. Computer Support Systems and Technology in an Antimicrobial Stewardship Program**

(ACPE UAN: 0221-9999-17-447-L04-P Knowledge-based, Release: 11/1/2017, Expiration: 11/1/2020)

- Identify the role of Information Technology Systems in Antimicrobial Stewardship
- Describe essential components of electronic system support in the current environment
- Discuss the future role for EMR/CDSS in Antimicrobial Stewardship

#### **VI. Optimizing Infectious Disease Outcomes in an Antimicrobial Stewardship Program**

(ACPE UAN: 0221-9999-15-270-L04-P Knowledge-based, Release: 10/15/2015, Expiration: 10/15/2018)

- Discuss the impact of antimicrobial therapy and resistance on clinical outcomes
- Review components of antimicrobial stewardship programs and opportunities to improve patient care
- Recognize dosing strategies to optimize antimicrobial pharmacodynamics
- Describe the development of evidence-based guidelines to implement clinical pathways
- Outline novel concepts of antibiotic heterogeneity to address gram negative resistance

#### **VII. Ensuring Compliance in the Age of Antimicrobial Stewardship Regulation**

(ACPE UAN: 0221-9999-17-332-L04-P Knowledge-based, Release: 9/7/2017, Expiration: 9/7/2020)

- Identify the requirements for antimicrobial stewardship programs in acute care settings as delineated by Joint Commission

- Describe the proposed requirements for antimicrobial stewardship programs in acute care settings as delineated by CMS
- Define the patient safety based requirements for antimicrobial stewardship programs in acute care settings as delineated by other regulatory/quality entities (i.e. CDC, LeapFrog survey, etc)
- Review questions related to antimicrobial stewardship that may be posed by a regulatory body during a survey
- Summarize interventions and processes that can be enacted in order to ensure compliance with regulatory requirements

### **Skills Component in the Practice Setting**

(ACPE UAN: 0221-9999-15-271-H04-P Application-based; 10 contact hours, Release: 10/15/2015, Exp: 10/15/2018)

After completion of the self-study and live webinars, the participant is required to implement some aspect of antimicrobial stewardship at their facility. The Clinical Skills Component is an activity by which the student demonstrates their individual mastery of the content in the first two phases by applying what they learned to implement or modify some aspect of antimicrobial stewardship at their facility. The Clinical Skills Component may address any facet (structure, policy, or outcome) of Antimicrobial Stewardship at their institution. The participant should notify SIDP, in writing, of the implementation approximately 4 months after completion of the last live webinar. A panel will review the document and evaluate it for appropriateness within antimicrobial stewardship. If modifications are needed, SIDP will return the document with review comments for change and the participant will have 2 months to resubmit a modified document. After approval by the panel of the required documentation, an overall program evaluation must be completed online. A CE statement of completion for 10 hours of CE will be issued online and a certificate of completion of SIDPs accredited Antimicrobial Stewardship Program will be sent to the participant. If a time extension is needed, please submit the request in writing via email to [info@proce.com](mailto:info@proce.com). The request for extension will be reviewed and an email will be returned to you as to whether the extension was granted.

The learning objectives are the following:

- Implement at least one aspect of antimicrobial stewardship within your practice setting.
- Construct a documentation plan for an antimicrobial stewardship project.
- Identify barriers to implementing components of an antimicrobial stewardship project.
- Outline strategies to overcome barriers identified for an antimicrobial stewardship project.

### **Accreditation Statement and Continuing Education Credit**

**Practice Activity Number 0221-9999-18-004-B01-P**

**Initial Date of Release: January 15, 2018 | Date of Expiration: January 15, 2021**



This CE activity is jointly provided by ProCE, Inc. and SIDP. ProCE is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. ACPE Practice Activity Number 0221-9999-18-004-B01-P has been assigned to this practice-based CE activity (initial release date 1-15-18).

This CE activity is approved for 40.0 contact hours (4.0 CEUs) in states that recognize ACPE providers. The participant can elect to complete three additional webinars at no additional cost and earn 44.5 contact hours (4.45 CEUs). Statements of completion will be issued online as individual modules are completed with a post-test score of 80% or higher and completion of an online evaluation. UANs for the individual activity modules are listed above.

The self-study component is 24 contact hours or 2.4 CEUs of continuing pharmacy education credits. Statements of completion will be issued online upon completion of the activity evaluations and the post-tests with a score of 80% or higher. It is anticipated the participant will complete this component within 3 months of registration. *Content and CE hours are subject to change: modules are regularly reviewed and updated to reflect current clinical knowledge.*

The live webinar component will result in 6 to 10.5 contact hours of continuing pharmacy education credit (0.6 to 1.05 CEUs). Statements of completion will be issued online upon completion of the activity evaluations and passing the post-tests with a grade of 80% or higher for each of the live webinar sessions. It is anticipated the participant will complete this component within 8 months of registration.

A practice or skills component will be completed at your practice setting after completion of the home study component and at least four live webinars. This portion is worth 10 hours or 1.0 CEUs of continuing pharmacy education credit. This component consists of implementation of some aspect of antimicrobial stewardship at your facility. This could be an IV to PO switch program, development and clinical incorporation of an antibiogram, criteria for use, clinical protocol to treat one or multiple infectious diseases, etc. The project information and documentation of implementation must be submitted either by email to [info@proce.com](mailto:info@proce.com) or via upload in the CE Center.

After approval by SIDPs panel of the required documentation, a final program evaluation must be completed online to receive CE credit. It is anticipated the participant will complete this component within 12 months of registration, or 14 months of registration if project modifications are needed.

Participants will have access to the content for one year after purchasing the program, unless an extension is granted.

### **Antimicrobial Stewardship Certificate of Completion**

Upon successful completion of all three components, a Certificate of Achievement will be issued to the participant from The Society of Infectious Diseases Pharmacists. The certificate will be mailed directly to participants 2-4 weeks following completion of the program. Participants who successfully complete the program will also be eligible for a 1 year free associate membership in SIDP.

### **Program Cost**

Participant cost is \$750 per pharmacist. This amount includes the self-study section, live webinars, and the skills component at your practice site. For trainees (e.g., residents, fellows, and graduate students) the cost is \$550 per individual.

For institutions or healthcare facilities providing payment from the same institution, the group discounts listed below are available for participants purchasing the complete program for \$750. *Group discounts are not applicable to the trainee rate or participants purchasing Phase 1 only or Phases 1&2 only.*

6-10 healthcare professionals = 5% discount

11-15 healthcare professionals = 10% discount

More than 15 healthcare professionals = 15% discount

If you wish to participate in only a portion of the Program, Phase 1 is available for \$500 per participant. Phases 1 and 2 are available for \$688 per participant. The above group discounts do not apply to these purchases.

**Cancellations received in writing prior to accessing any of the program content (fax: 630-540-2849 or e-mail [info@proce.com](mailto:info@proce.com)) will receive a full refund minus a \$150 cancellation fee.**

### **Hardware/Software Requirement**

**PC:** Microsoft Windows 7 or above

Chrome (recommended), Internet Explorer (v9 or greater) or Firefox

Adobe Acrobat Reader

Sound Card and Speakers

800 x 600 Minimum Monitor Resolution (1024 x 768 Recommended)

Flash Player Plug-in, Current Version

JavaScript, Java 1.6 or higher

**MAC:** Mac OS X

Chrome or Firefox

Adobe Acrobat Reader

Sound Card and Speakers

Flash Player Plug-in, Current Version

JavaScript

**Contact for Technical support or CE questions:** ProCE, Inc., e-mail [info@proce.com](mailto:info@proce.com) or phone: 630-540-2848.

### **Conflict of Interest Disclosure**

The Conflict of Interest Disclosure Policy of ProCE, Inc. requires faculty participating in a continuing pharmacy education activity to disclose any relationship(s) with a pharmaceutical, product or device company. Faculty disclosing relationships proven to create a conflict of interest with regard to their contribution to the activity will not be permitted to present. Faculty are also required to disclose during their presentation when discussing any unlabeled or investigational use of any commercial product or device not yet approved for use in the United States.

## Faculty

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*No conflict of interest reported*

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*No conflict of interest reported*

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### **Alan Gross, Pharm.D., BCPS AQ-ID**

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### **Elizabeth D. Hermesen, Pharm.D., MBA, BCPS-ID**

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SOCIETY OF INFECTIOUS  
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## Antimicrobial Stewardship Certificate Program Registration Form

If you cannot complete payment online complete this form and mail it along with payment to:  
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