

Best practice guidelines for uncomplicated urinary tract infections to reduce rates of antibiotic resistance: A CE module for clinicians

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Abstract

Uncomplicated urinary tract infections (UTIs) accounted for over 8 million visits to ambulatory clinics. The annual cost of evaluation and treatment for uncomplicated UTIs on the health care system is estimated to be approximately \$2.14 billion (Barber, et al., 2013). The improper treatment of patients with uncomplicated UTIs will result in increased healthcare expenditures, increase exposure of patients to potential side effects and an increase in antibiotic resistance. This capstone project addressed the problem of non-adherence to evidence-based guidelines to treat uncomplicated UTI in women, among primary care providers. The purpose of this capstone project was to develop an evidence-based continuing education (CE) module for the appropriate treatment of uncomplicated UTIs. The CE module includes evidence-based content, which reflects the recommendations of the 2010 ISDA guidelines.

The capstone route chosen for this project was an evidence-based comprehensive plan of action for addressing a health care outcome. A review of the literature revealed that a large number of providers and patients are non-compliant with antibiotic use in the treatment of uncomplicated UTIs. The review of literature also supported the need to provide evidence-based education for health care providers as they care for women with uncomplicated UTIs. The concepts of the Adult Learning Theory by Malcolm Knowles were used as a framework to develop the CE module. The expected outcomes of the CE module will include provider use of EB guidelines for clinical decision-making in the treatment of women with uncomplicated UTI.

Keywords: uncomplicated UTI, antibiotic resistance, EBP guidelines, CE module

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Introduction

Uncomplicated urinary tract infections (UTIs) accounted for over 8 million visits to ambulatory clinics (Barber, Norton, Spivak, & Mulvey, 2013). It is one of the most common reasons for visits to primary and urgent care clinics (Mangin, et al., 2012). Lowe and Ryan (2012) reported that, approximately 9 million women with uncomplicated UTIs are seen annually in various healthcare settings. Uncomplicated UTI is defined as an infection of the urinary tract in the absence of comorbidities such as pregnancy, diabetes, renal function impairment or physiological and structural anomalies (Wagenlehner, Hoyme, & Schmiemann, 2011).

The burden on the healthcare system and the costs associated with the treatment of uncomplicated UTIs will continue to increase. The annual cost of evaluation and treatment for uncomplicated UTIs on the health care system is estimated to be approximately \$2.14 billion (Barber, et al., 2013). A notable increase in the cost of managing patients with uncomplicated UTIs places a financial burden on patients, providers, and the current healthcare system. Treatment failure due to antibiotic resistance results in the need for repeat consultations, additional tests, and alternate antibiotic regimens (Kardas & Bishai, 2006). Additional testing would include a urine culture to determine the type of and antimicrobial susceptibility of the uropathogen (Hooton, 2012).

Although antibiotics remain the standard treatment of uncomplicated UTIs, their overuse has contributed to a rise in resistance (Bjorkman, Berg, Viberg, & Lunborg, 2013). In order to reduce the risk of developing antibiotic resistant bacteria, it is imperative that health care providers adhere to the recommended evidence-based practice (EBP) guidelines for the management of uncomplicated UTIs in women. Research has shown that short-course antibiotic

regimens to be just as effective as traditional long-course regimens (Hooten, 2012). In addition, women are also likely to complete a short-course compared to a long course regimen (Kardas & Bishai, 2006).

Problem Statement

Successful management of uncomplicated UTIs among women is a difficult and costly process that requires knowledge of and adherence to EBP guidelines. The prescribing patterns of healthcare providers revealed non-adherence to current guidelines for treatment of uncomplicated UTIs, which is likely influenced by social norms (Charani, et al., 2011). These norms are difficult to change once they have been established even though they might be ineffective or counterproductive (The McDonnell Norms Group, 2008). Evidence also suggested that attitudes such as complacency, indifference, ignorance, and fear of potential repercussions related to withholding antibiotics as factors affecting effective management of uncomplicated UTIs (Lopez-Vazquez, Vazquez-Lopez, & Figueiras, 2011).

The result of poor management of uncomplicated UTIs has contributed to an increase in antibiotic resistance over the years (Kotwani, Wattal, Joshi, & Holloway, 2012). There has been a reported rate of antibiotic resistance ranging from 15% to 20% in areas where trimethoprim/sulfamethoxazole (TMP/SMX), has been commonly used as a first-line agent for the treatment of uncomplicated UTIs (Hilbert, 2011). Although a paucity of literature exists supporting the use of EBP guidelines to treat and manage uncomplicated UTIs, providers continue to struggle with effective management of this condition. This may be due to what some seasoned providers consider the old tried and true method of treating uncomplicated UTIs.

On the contrary, novice providers might adhere strongly to EBP guidelines especially if their academic experience has revolved around the use of EBP. However, often times medical

students and nurse practitioner students are largely influenced by behavior practices instilled upon them during the course of their training, which would affect the outcome of their practice patterns after graduation (Charani, et al., 2011). There is currently no educational activity available to address the appropriate treatment of uncomplicated UTIs in women. The development of this CE module is to promote awareness and adherence to current EBP guidelines for the appropriate treatment of uncomplicated UTIs in women while promoting a decrease in antibiotic resistance.

Statement of Purpose

The purpose of this Clinical Doctorate Capstone Project was to develop an evidence-based continuing education module (Appendix D) for the appropriate treatment of uncomplicated UTIs in women. Current evidence exists that supports changing the current practice methods of primary care providers (PCPs) by providing education about effective management of patients who have uncomplicated UTIs. The change in practice would likely result in a decrease in over prescribing antibiotics, a decrease in the rates of antibiotic resistance, a decrease in health care costs, and an increase in positive patient outcomes (Dryden, Johnson, Ashiru-Oredope, & Sharland, 2011).

Findings of a Needs Assessment

Urinary tract symptoms are one of the most common chief complaints and reasons prompting a visit to an urgent care or primary care office (Barber, Norton, Spivak, & Mulvey, 2013). The diagnosis of uncomplicated UTIs is one of the most common reasons for prescribing antibiotics (Wagenlehner, et al., 2011). The risk of antibiotic resistance increases with frequent use of broad-spectrum antibiotics and for longer than recommended duration of treatment (Wagehlehner, et al., 2011). There is evidence that indiscriminate use of antibiotics not only

affects the individual, but also may adversely affect society by promoting the development of antibiotic resistance bacteria (Deasy, 2009).

Patients who present with symptoms of urinary urgency, frequency, dysuria, and occasionally odor, especially with a history of UTIs, tend to self-diagnose (Platt & Keating, 2007). Others may have self-medicated with antibiotics leftover from a previous infection due to premature cessation of treatment after symptom resolution. The overuse of antibiotics has been shown to be associated with potential harmful side effects. The subsequent disruption of normal vaginal and gastrointestinal (GI) flora due to antibiotic use would result in an increased risk of secondary infections such as vaginal candidiasis and *Clostridium difficile* (Deasy, 2009).

The most common misconception that exists among patients is that “illnesses are treated effectively with antibiotics” or that the use of antibiotics helps “speed up recovery” (Kotwani, Joshi, & Holloway, 2012; The McDonnell Norms Group, 2008). In fact for many patients, their prior experiences regarding treatment of previous uncomplicated UTIs most likely involved a seven to ten day course of antibiotics. The result is an increased risk of developing antibiotic resistance because many patients tend to be non-compliant with their antibiotic treatment once their symptoms have resolved, (Jin, Sklar, Oh, & Li, 2008).

It has been found that 25% to 50% of women experiencing symptoms of uncomplicated UTI will recover spontaneously within a week without antibiotics (Knottnerus, Geerlings, Moll van Charante, & ter Riet, 2013; Leydon, Turner, Smith, & Little, 2009). Knottnerus et al. (2013) conducted a prospective cohort study, which found that 55% of women are willing to delay the use of antibiotics and adopt alternative treatment for uncomplicated UTIs. The study revealed that after one week, 71% of those women who delayed antibiotic treatment reported improvements or resolution of their symptoms (Knottnerus et al., 2013). This study illustrated

that patients might not always expect to be treated with an antibiotic; some might adopt a wait-and-see approach. It is important that providers not assume that every patient presenting with symptoms of uncomplicated UTI expect an antibiotic.

Evidence exists that support a correlation between patient expectations for antibiotic use and the prescribing behaviors of providers (Bjorkman, Berg, Viberg, & Lundborg, 2013). The results revealed that providers were more likely to prescribe antibiotics to patients whom they did not know well. The reason may be due to the fear that if they delayed treatment, the patient might view it as failure to treat or symptoms could worsen and the patient might seek treatment elsewhere (Bjorkman et al., 2013). Patients are likely to be more receptive to delaying antibiotic treatment or completion of recommended therapy if they have a positive relationship with their provider (Jin, Sklar, Oh, & Li, 2008).

Educational programs and campaigns are needed to increase patient awareness of the potential for developing antibiotic resistance due to antibiotics overuse (Kotwani, Joshi, & Holloway, 2012). The Centers for Disease Control (CDC) has implemented a “Get Smart for Healthcare” program aimed at reducing the rates of antibiotic resistance and antibiotic use in the community (Srinivasan, 2010). The program’s main objectives are to promote adherence to antibiotic therapy, promote judicious prescribing practices, and decrease public demand for antibiotic use (Srinivasan, Septimus, Fisher, & Cosgrove, 2010).

A CE module was developed to address the increase provider awareness of current EBP guidelines in the treatment of uncomplicated UTIs in women while addressing the issue of increasing antibiotic resistance. The module was intended to educate providers and promote the adherence of antibiotic stewardship while minimizing costs for the patient and health care system.

Review of the Literature

Women are more susceptible to UTI's because the female urethra is shorter and in closer proximity to the rectum allowing for ease of bacterial colonization, which increases the risk of UTI's (Jackson, 2007). Frequent sexual intercourse, use of contraceptive devices, changes in hormone levels or disruption of normal vaginal flora are predisposing factors increasing the risk of UTIs in women (Barber, Norton, Spivak, & Mulvey, 2013; Jackson, 2007). In menopausal women, the decrease in estrogen results in thinning of the lining of the urinary tract leading to an increased susceptibility to infections (Barber, et al., 2013).

Symptoms of uncomplicated UTIs and sexually transmitted infections (STIs) are very similar, making them harder to diagnose and to discern. Women with a history of frequent UTIs often assume their symptoms are related to an episode of recurrence. Classic symptoms of UTIs are dysuria, urgency, and frequency, which could also be caused by a STI such as chlamydia (Lawal, 2012; Nicolle, Anderson, & Zhanel, 2006). The standard urine dip only detects the presence of bacteria; it does not differentiate between the different types (Robbins & Shew, 2009). For this reason, a urine culture needs to be obtained to determine the specific type of bacteria (Robbins & Shew).

Accurate diagnosis of UTIs and STIs should be made based on description of symptoms, positive urinalysis, physical examination, and history in order to provide appropriate treatment while minimizing the potential for long-term complications hereby promoting antibiotic resistance (Robbins & Shew, 2009). A diagnosis of sexually transmitted infection (STI) cannot be excluded if a woman presents with urinary tract symptoms and vaginal discharge. Therefore, it is imperative that the patient history be thorough, and includes the possibility of exposure to STIs to ensure the appropriate treatment regimen.

Studies have shown that senior colleagues have a greater influence on their subordinate peers regarding antimicrobial prescribing behavior than policy and EBP guidelines (Charani, et al., 2011). The persistent lack of adherence to EBP guidelines results in an increase in financial burden on the health care system. One systematic review has shown a correlation between the unnecessary use of antibiotics to treat uncomplicated UTIs and the increased risk of developing antibiotic resistance (Wagenlehner, et al., 2011). The review highlighted that the increased risk of resistance not only affects the individual taking the antibiotic, but also the general population (Wagenlehner, et al.). According to the CDC, the appropriate use of antibiotic is defined as “use that maximizes therapeutic effect while minimizing risk of increased resistance” (Nicolle, et al., 2006, pp. 615).

EBP guidelines that determine the optimal treatment for uncomplicated UTIs have been established by various professional organizations such as the American Congress of Obstetricians and Gynecologists (ACOG) and the Infectious Disease Society of America (IDSA). The ACOG guidelines released in 2008 recommended a course of TMP/SMX 160/800mg twice daily by mouth for three days for the treatment of uncomplicated UTIs in women (Barclay, 2008). Nitrofurantoin, a narrow spectrum antibiotic, has been shown to have a favorable side effect profile and despite being used to treat UTI's for many years has a low rate of resistance, approximately 2% (Hooton, 2012). As a result the IDSA has recommended nitrofurantoin orally twice a day for five days, as the first-line of treatment for uncomplicated UTIs (Hooton). The use of flouroquinolone is an effective alternative in the presence of sulfa and nitrofuratoin allergy, but should be limited to minimize the risk of resistance (Hooton). If local resistance to one of the recommended antibiotics is 15% or greater, guidelines recommend the use of an alternative antibiotic for treatment (Hooton).

The alternative antibiotic regimen recommended by IDSA (2010) was TMP/SMX twice a day for three days (Gupta, Hooton, Naber, Wullt, Colgan, Miller, & Soper, 2011). TMP/SMX has been used as the first-line of treatment and recommended by the IDSA for many years, however with the current trend of increasing resistance, it has been replaced with nitrofurantoin (Gupta et al., 2011). Meta-analysis and randomized clinical trials have shown no difference in efficacy between the two drugs and that a five-day course of nitrofurantoin was just as effective as the seven-day (Gupta et al.). If the patient is allergic or resistant to both TMP/SMX and nitrofurantoin, a ciprofloxacin would be an effective alternative (Hooton, 2012). Guidelines stated that ciprofloxacin 250mg taken orally twice a day for three days might be used to treat uncomplicated UTI in women (Hooton).

Background issues

Financial

The overuse of antibiotics for treatment of uncomplicated UTIs in women has led to an increase in the development of antibiotic resistance and healthcare costs (Bjorkman, Berg, Viberg, & Lunborg, 2013). In 2000, the annual cost of evaluation and treatment for uncomplicated UTIs was \$3.5 billion (Barclay, 2008). Studies have shown that antibiotic resistance is often the result of delayed administration of effective antimicrobial therapy, which is associated with adverse outcomes and increased costs (Kardas & Bishai, 2006). The consequences of treating antibiotic resistance include the costs of additional testing such as urine culture and sensitivity and stronger antibiotics leading to an increase in expenses for the patient and clinic (McGowan Jr., 2001).

Additional financial concerns are related to the drug industry, which is motivated by profit and is dependent on potential patients using their products (Kotwani, Wattal, Joshi, &

Holloway, 2012). A randomized control trial (RCT) has demonstrated that a five-day course of nitrofurantoin or three-day course of TMP/SMX to be as effective and cheaper than fluoroquinolones such as ciprofloxacin (McKinnell et al., 2011). The cost of a five-day course of nitrofurantoin is approximately \$8.40 and a three-day course of TMP/SMX is \$16.80 compared to \$35.42 for a three-day course of ciprofloxacin (Epocrates, n.d.).

Evidence exists that changing current practice through education would likely result in a decrease in over prescribing of antibiotics, thereby minimizing resistance, decreasing health care costs, and improving patient outcomes (Srinivasan, 2010). However, the costs of developing educational presentations and in-service education for participants include time and money. These costs are often the responsibility of the employer, the health care personnel, the pharmaceutical company or the health care institution (McGowan Jr., 2001). Some practices offer fixed annual stipends to encourage and promote provider compliance with continuing education requirements to offset the costs of conferences, seminars, or online continuing education (CE) modules. These incentives are used to encourage providers to stay up to date on the latest treatment guidelines, research findings, while accumulating the number of credit hours needed for re-certification as determined by their regulatory board.

Political

EBP guidelines and clinical pathways exist that recommend the appropriate treatment and diagnosis for uncomplicated UTIs. These guidelines are readily available on the Internet or via a literature search in the library. However, the results might not always be consistent or up to date. The treatment plan is often left to the discretion of the individual provider. As a result, there is a lack of consistency in the treatment of the uncomplicated UTIs that result in confusion among patients and providers alike.

The Canadian Family Physician (CFP) (2006) and ACOG (2008) had recommended a three-day course of TMP/SMX as the preferred first-line of treatment for uncomplicated UTIs. However, the CFP had also recommended a seven-day instead of a five-day course of nitrofurantoin, as suggested by the ACOG and IDSA, as an alternative antibiotic therapy (Gupta, et al., 2011; Nicolle, Anderson, & Zhanel, 2006). In 2010, the IDSA suggested the first line of treatment be either a five-day course of nitrofurantoin or three-day course of TMP/SMX (McKinnell, Stollenwork, Jung, Miller, & Loren, 2011). A three-day course of flouoroquinolone although highly effective, is recommended as a second-line treatment to be used in case of sulfa or nitrofurantoin allergy and in areas where resistance to TMP/SMX is greater than 15% to 20% (Barclay, 2008; Hilbert, n.d.). Conflicting recommendations regarding the duration and type of antibiotic therapy for the treatment of uncomplicated UTIs in women may be a cause of confusion for providers, making adherence to EBP guidelines more difficult. Therefore, this CE module was developed based on the latest EBP guidelines as set forth by the IDSA.

In order to encourage appropriate use of antibiotics and promote the reduction of antibiotic resistance, patient and provider misconceptions need to be addressed. Patients often believe that antibiotics will speed up recovery and therefore expect to be prescribed one during their office visit (Srinivasan, Fishman, Septimus, & Cosgrove, 2010). Providers might feel pressured to comply in order to maintain their patient satisfaction scores and retain patients in the practice (Srinivasan, 2010.). Additionally, some providers believe that “they alone cannot change the problem of resistance” by adhering to EBP guidelines (Rodrigues, Roque, Falcao, Figueiras, & Herdeiro, 2013). Promoting judicious antibiotic prescribing behaviors by providers as well as educating patients about the risks of antibiotic resistance would help reduce the rates of resistance in the community (Srinivasan, et al., 2010).

Cultural

Established societal norms with respect to prescribing behaviors allow for the persistent problem of antibiotic overuse (The McDonnell Norms Group, 2008; Charani, et al, 2011). For example, colleagues are often reluctant to alter prescriptions written by another even though they are not compliant with EBP guidelines or there exists a tendency to follow the prescribing precedence set by more senior staff members (Charani et al., 2011, pp. 657). Learned practices that students gained from professors tend to withstand change despite latest EBP guidelines to the contrary (The McDonnell Norms Group, 2008, p. 269).

A systematic review has shown the effects of cultural and behavioral determinants on the prescribing behavior of providers (Charani, et al., 2011). There appears to be a prescribing etiquette where there is a tendency to follow the precedence set by senior staff as opposed to prescribing behavior that is based on evidence-based guidelines (Charani et al., 2011). As a result, many providers are reluctant to follow prescribing guidelines if they differ from those of their senior staff members (Charani et al.). Therefore, in order to promote effective antibiotic stewardship, behavioral changes of providers need to be addressed.

There is evidence supporting a correlation between appropriate antibiotic and a decrease in developing antibiotic resistance (Bartlett, Ohl, Septimus, & Srinivasan, 2010). Research has shown that patients are less likely to be compliant with a long-course antibiotic therapy once their symptoms have resolved resulting in an increased risk of developing antibiotic resistance (Kahan, Chinitz, & Kahan, 2004). Providers should be made aware that short course antibiotic treatments are as effective as traditional long course therapy. Patients are more likely to be compliant with a short course of antibiotic therapy and may complete the course of treatment thus minimizing the risk of developing resistance (Ansbach, Dybus, & Bergeson, 2005).

There seems to be shared expectation amongst patients that antibiotics should be prescribed for the treatment of many symptoms and complaints. It has been a long held belief among patients that any symptomatic illness warranted a prescription for an antibiotic regardless of its necessity (The McDonnell Norms Group, 2008). By adhering to EBP guidelines and withholding unnecessary antibiotic treatment, providers risk losing patients and revenue for the clinic. Patients might view the failure to prescribe as a failure or refusal to treat prompting them to find a provider from another clinic (The McDonnell Norms Group, 2008). According to one study, there is a correlation between antibiotic prescribing behavior and provider-patient relationship (Bjorkman, Berg, Viberg, & Lundborg, 2013). Providers were twelve times less likely to prescribe antibiotics prematurely to patients that they knew well as a result of an established trust relationship (Nazareth & King, 1993).

Ethical

Providers have taken an oath to do no harm to patients and have been taught to act in their patients' best interest to promote health and wellbeing (The McDonnell Norms Group, 2008). Evidence has shown that some providers may feel pressured by patients' expectations for antibiotics and as a result, feel obligated to prescribe antibiotics against their better judgment (Bjorkman, Berg, Viberg, & Lundborg, 2013). The fear of potential complications of delayed antibiotic treatment as well as the possibility of compromising patient satisfaction could be one of the driving forces behind inappropriate prescribing behaviors (Srinivasan, Fishman, Septimus, Cosgrove, 2010). Consequentially, this practice has cemented patients' belief that antibiotics are a necessity for improved health outcome (The McDonnell Norms Group, 2008).

Many factors affect and determine the frequency and over prescribing of antibiotics. There is ample evidence supporting a correlation between a rise in healthcare expenditure, an increase in antibiotic resistance, and the prolific use of antibiotic. In order to curb the overuse of

antibiotics while reducing the rates of antibiotic resistance, it is imperative that providers be made aware of and follow EBP guidelines to practice. This CE module serves to educate and to promote antibiotic stewardship in the treatment of uncomplicated UTIs in women. The pros and cons addressing the issues of changing prescribing behaviors through the development of the CE module are summarized in a SWOT analysis chart (Appendix A).

Conceptual/Theoretical Framework

The Adult Learning Theory, developed by Malcolm Knowles guided the development of this project. Knowles suggested that adult learning be “more explorative and less formal” (Norrie & Dalby, 2007, p.319). He coined the term andragogy for a “learner-focused education” (Taylor & Kroth, 2009, p.3). He believed that each adult has a set of preconceived notions and emotions regarding the learning process and that attitudes and behavior affected the outcome of their learning. Knowles identified six core characteristics of the adult learner. These include the learner’s: (1) need to know, (2) self-concept, (3) experience, (4) readiness to learn, (5) orientation to learning, and (6) motivation (Norrie & Dalby).

Adult learners prefer active learning strategies and need to be in control of their own learning (Norrie & Dalby, 2007). Their experiences will serve as a form of motivation to learning as they develop professionally and personally (Norrie & Dalby). Once they have identified the gaps in knowledge and reason for learning, their internal motivation or curiosity is stimulated (Norrie & Dalby; Taylor & Kroth, 2009). The most common reason adults partake in any learning experience is to increase their knowledge base in order to make a change within themselves or their organization (Russell, 2006). Therefore a CE module was developed to allow the adult learner to partake at a time and place that would be conducive to the learner’s schedule.

This theory was used in strategic planning of the CE module to educate participants regarding the key concepts for the treatment of uncomplicated UTIs in women. The pre and post tests consist of vignettes that promote abstract thinking and analysis of the content reviewed. This is consistent with Knowles belief that adult learners are self-directed and self-motivated to learn. This CE module will be available in print and as an online resource once it has been accepted for submission. This would allow participants to partake in the CE activity at a time and place of their choosing.

Plan of Action

Project goals

The purpose of this project was to develop an EBP continuing education module (see Appendix D) for the appropriate treatment of uncomplicated UTIs in women. A literature review of existing studies has shown a high rate of non-compliance among health care providers with respect to the use of EBP guidelines for the treatment of uncomplicated UTIs (Kahan, Chinitz, & Kahan, 2004). Long course antibiotic therapy continues to be prescribed despite evidence to the contrary (Ansbach, Dybus, & Bergeson, 2005). Evidence exists that supporting a change in current practice methods through education would likely reduce the frequency of which antibiotics are prescribed (Bekkers, Simpson, Dunstan, Hood, Hare, Evans, Butler, & STAR study team, 2010; Deuster, Roten, & Muehlebach, 2010).

This CE module was designed to increase awareness of the new guidelines regarding treatment of uncomplicated UTIs in women to promote better patient outcome while addressing the global threat of antibiotic resistance. The CE module was developed based on current IDSA guidelines for treatment of uncomplicated UTIs in women. Multiple-choice questions were constructed based on the format used by the National Board of Medical Examiners (Case &

Swanson, 1996). Vignettes and multiple-choice questions were used to assess participant learning and comprehension of the modular content discussed. Participants should have an increased understanding of appropriate diagnosis and treatment of uncomplicated UTIs as well as an increased understanding of differential diagnoses that may mimic symptoms of UTIs at the completion of the module.

It is anticipated that upon completion of the CE module, there will be an increased awareness of the latest EBP guidelines based on IDSA recommendations for the treatment of uncomplicated UTIs in women. A plan of action included the following measurable objectives:

Measurable objectives

- Evaluated literature for development of a CE module
- Synthesized literature for development of a CE module
- Identified the appropriate content for the CE module
- Developed a CE module in collaboration with the content expert
- Investigated various delivery methods for the CE module

Module objectives

- 1) Differentiate between complicated and uncomplicated urinary tract infections.
- 2) Describe the symptoms of uncomplicated UTI.
- 3) Discuss causes of increasing rates of antibiotic resistance.
- 4) Identify the differential diagnoses for dysuria.
- 5) Incorporate the current EBP guidelines recommended by IDSA into care decisions.
- 6) Implement the first-line of treatment for uncomplicated UTIs.

Evaluation Plan

After conducting a needs assessment focused on the management of uncomplicated UTIs by health care providers, a gap between evidence and practice was identified. According to the literature, providers continue to utilize a seven-day to ten-day course of antibiotics for the treatment of uncomplicated UTIs. The literature revealed the most likely reasons attributing to provider non-adherence to EBP guidelines, included complacency, indifference, ignorance, and fear of worsening of infection in patients who were not treated early (Lopez-Vazquez, Vazquez-Lago, & Figueiras, 2011).

A self-directed CE module has been developed in collaboration with a content expert and will be submitted to the Arizona Nurses Association (AZNA) for approval of one CE credit hour. This module is intended for nurse practitioners, physician assistants, and physicians who evaluate and treat women for uncomplicated UTIs within the clinical setting. The CE module is designed to increase the use of evidence among providers for the appropriate treatment of uncomplicated UTIs in women.

The process for implementation of the CE module will follow the principles established by the AZNA. The design principles include identification of the overall learning purpose/goal, individual activity documentation form, learner feedback method, criteria for successful completion, and how the credit will be awarded (AZNA, 2012, p. 8). In order to assess and evaluate the participants' knowledge of guidelines for the appropriate treatment of uncomplicated UTIs in women in accordance with the guidelines as established by the Infectious Disease Society of America (IDSA), a pre-test consisting of 10-multiple choice items and a post-test consisting of 10-multiple choice items and 2 questions using the likert scale format will be

administered. Upon completion of the module, the participants will be expected to identify and incorporate current EBP guidelines into care decisions.

The purpose of the pre-test will be to identify the gaps in knowledge and to identify clinical practice patterns for each provider regarding the treatment of uncomplicated UTIs in women. Upon completion of the education module, each provider will complete a 10-item multiple choice post-test and two questions using the Likert scale. The participants will be expected to achieve a minimum score of 80%, confirming that they met the module objectives.

Expected outcomes

The expected outcome of this capstone project included the development of a CE module targeting health care providers: nurse practitioners, physician assistants and physicians. The content of the CE module will provide healthcare providers with the knowledge and skills to appropriately manage and treat women diagnosed with uncomplicated UTIs. The expected outcomes of the CE module are:

- The participants will score a minimum 80% on the post-test thus demonstrating learner knowledge.
- The participants will have increased awareness of current EBP guidelines for treatment of uncomplicated UTIs in women.
- The participants will incorporate antibiotic stewardship into practice.
- The participants will increase adherence to current EBP guidelines.

Project Timeline

The project timeline is displayed in a GANTT chart (see Appendix B).

1. A needs assessment was conducted to identify gaps in knowledge and the reasons for the over use of antibiotics for treatment of uncomplicated UTIs in women.

2. A review of the literature was performed to identify EBP recommendations for the appropriate treatment of uncomplicated UTI in women.
3. A research matrix was created to document a summary of each research article, the level of evidence for each, and corresponding reference (see Appendix C).
4. The CE module was developed in accordance with IDSA (2010) guidelines (see Appendix D).
5. The AZNA application form was used to guide the development of the manuscript portion of CE module (see Appendix E).
6. The National Board of Medical Examiners' manual was used to assist with the development of test questions associated with the CE module.

Recommendations

A vast amount of evidence and data provided the resources and the support to complete this capstone project. The use of empiric treatment for UTIs with long course antibiotic therapy has been found to be associated with the rapid increase in rates of antibiotic resistance. This CE module was developed according to the criteria set forth by the Arizona Board of Nursing. Within each state, the Board of Nursing will have specific set of criteria specific for developing a CE module.

It is anticipated that a limitation to implementing this focused module is the result of differing guidelines established by various professional organizations such as the American Congress of Obstetricians and Gynecologists (ACOG), the Canadian Family Physician (CFP), and the Infectious Disease Society of America (IDSA). For example, the CFP (2006) and ACOG (2008) guidelines recommended TMP/SMX as the first-line of treatment whereas IDSA (2010) recommended nitrofurantoin as its first-line of treatment for uncomplicated UTIs. Both the

ACOG and IDSA agreed that a five-day course of nitrofurantoin to be an effective form of treatment, but the CFP suggested a seven-day course instead. This discordance between organizations is the cause of confusion among providers when deciding which EBP guidelines to follow. Therefore the development of this CE module was based on the latest available EBP guidelines by the IDSA in order to minimize confusion among participants.

Implementation of this project could be difficult within a large network of institutions. There has to be a general consensus by administration of a need to address this issue. For example, there are senior staff members who might be resistant to change therefore providing barriers to implementation. Evidence has shown that senior staff members might view new guidelines and policies as a violation of their autonomy as well as years of personal experience (Charani, et al., 2013). However, implementation of this project within a smaller clinical setting might be better received and met with less resistance.

Replicability of the project in other settings

This project can easily be replicated in any clinical setting since uncomplicated UTIs are commonly seen and treated in family practice, urgent care, and emergency departments. Large amounts of literature regarding antibiotic resistance and UTIs are available and easily accessible via the online databases such as Up to date and EBSCOhost. The CE module test questions were developed using strategies outlined by the National Board of Medical Examiners' manual (Case & Swanson, 1996). Measurable objectives and intended learning outcomes are clearly stated in this capstone report and are easily modifiable to fit the needs of the intended project.

Congruence with AACN-DNP Essentials

The DNP essentials that are most congruent with this capstone project are Essentials I, III, and VII. Essentials I (Scientific Underpinnings for practice) and VII (Clinical Prevention and Population Health for Improving the Nation's Health) were met by developing a CE module to improve prescribing habits and treatment. A gap in knowledge between current practice habits and evidence-based guidelines was identified. Promoting proper treatment of uncomplicated UTIs in women will help decrease the rates of antibiotic resistance in the community as well as improving patient outcomes. DNP Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice was met by applying current research findings into practice. A review of literature was conducted from which a CE module was developed.

Plan for sustainability and dissemination of project

The long-term plan for this project focuses on the dissemination of information. This module will be offered to various nursing boards across the country, and will be submitted for publication to urology and/or infectious disease journals for continuing education credit. The information could be incorporated into course curricula for nurses, advanced practice nurses, physician assistants, and physicians. This CE module will be updated and offered annually to promote and encourage adherence to treatment guidelines. Possible funding sources identified include Sigma Theta Tau International and/or the National Council of University Research Administrators.

The completed CE module will be submitted for publication in the Journal for Nurse Practitioners or the Journal of the American Academy of Nurse Practitioners. Further plans to disseminate this project include an abstract acceptance by Sigma Theta Tau International (STTI) for a poster presentation for the 25th International Nursing Research Congress in Hong Kong.

The purpose of the poster presentation is to bring awareness and to educate other providers regarding the best practice guidelines for treatment of uncomplicated UTI in women internationally.

Conclusion

Evidence has shown that antibiotic resistance is on the rise due to inappropriate antibiotic use (Wagenlehner, et al., 2011). The treatment of UTIs costs the healthcare system \$2.14 million annually (Barber, Norton, Spivak, & Mulvey, 2013). This cost includes re-evaluation, testing, and additional treatment of UTI that resulted from initial treatment failure due to resistance (Barber *et al.*, 2013). Persistent non-adherence to EBP recommended treatment for uncomplicated UTIs in women helps to compound an already complex problem.

It is imperative to practice antibiotic stewardship at all times in order to decrease potential adverse reactions in patients while protecting the effectiveness of antibiotics for future use. Short-course antibiotic treatment for uncomplicated UTIs in women should be prescribed in accordance with the latest EBP guidelines. Although symptoms of UTI are one of the most common reasons for visits to health care clinics, diagnosis of UTI is not always simple. This educational activity will allow providers to make better decisions regarding the treatment of uncomplicated UTIs in women while decreasing antibiotic resistance. Therefore upon completion of this CE module, providers will be able to improve the accuracy of their diagnosis as well as consider other potential differentials that might mimic symptoms of an UTI.

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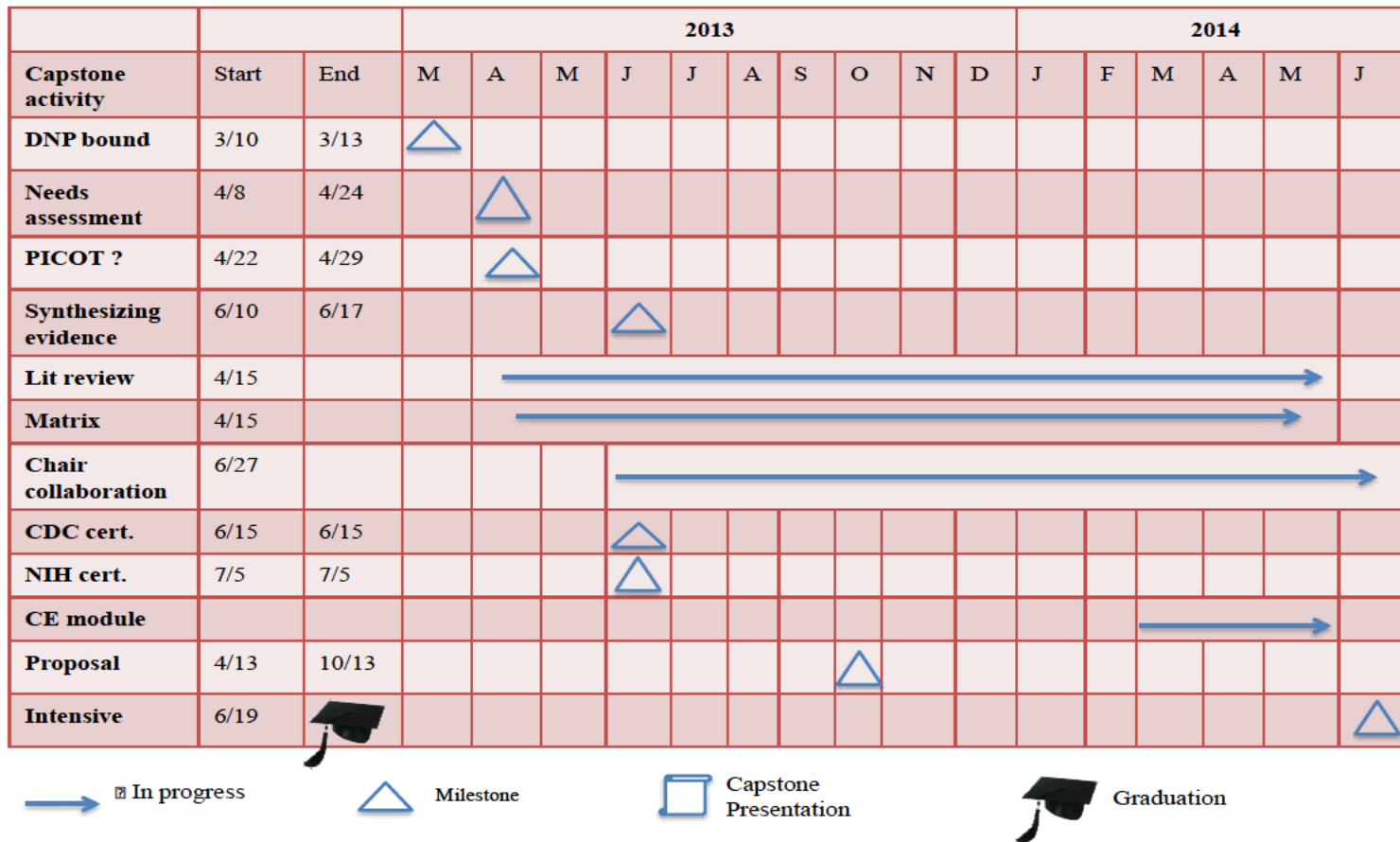
Appendix A

SWOT Analysis

		INTERNAL			
		STRENGTHS		WEAKNESSES	
P O S I T I V E		<ul style="list-style-type: none"> ▪ Supported by evidence-based practice (EBP) guidelines. ▪ Decreased risk of antibiotic resistance. ▪ Improve patient compliance with antibiotic treatment. ▪ Improved patient outcome. ▪ Lower healthcare expenditure. 		<ul style="list-style-type: none"> ▪ Lack of funding. ▪ Lack of support from senior staff. ▪ Complacency in prescribing behaviors. 	N E G A T I V E
		OPPORTUNITIES		THREATS	
		<ul style="list-style-type: none"> ▪ Improved treatment of uncomplicated UTIs in women. ▪ Decrease in side effects from overuse of antibiotics. ▪ Increased awareness of EBP guidelines to treatment. ▪ Decreased healthcare costs for patients and clinics. 		<ul style="list-style-type: none"> ▪ Resistance to change. ▪ Need to overcome prescribing etiquette. ▪ Lack of participation. ▪ Existence of conflicting guidelines by different organizations is a source of confusion for providers. 	
		EXTERNAL			

Appendix B

GANNT chart



Appendix C

Matrix of Evidence

Author	Title	Purpose	Sample	Methodology & level of evidence	Key points
Knottnerus, B. J., Geerlings, S. E., Moll van Charante, E. P. & ter Riet, G. (2013, May)	Women with symptoms of uncomplicated urinary tract infection are often willing to delay antibiotic treatment: a prospective cohort study	Investigation of how many women are willing to delay antibiotic treatment when presenting w/ UTI symptoms	N =176	Prospective cohort study LOE: 4	Women experiencing hematuria & leukocyturia were less willing to delay antibiotic Tx. 1/3 women will delay antibiotic Tx where more than 70% will have improvement after one week. Pts do not always want antibx , providers often assume otherwise. Results are not generalizable d/t cultural differences. Pyelo is an uncommon but severe infxn. Studies have shown that UTIs rarely progress into pyelo.
Barber, A.E., Norton, J. P., Spivak, A. M., & Mulvey, M.A. (2013, September 1)	Urinary tract infections: Current and emerging management strategies	Discuss current strategies for managing UTIs	n/a	Lit review LOE=6	Annual occurrence of 8million UTIs in the US. Annual cost is \$2.14 million. 1 in 3 will develop a UTI. Stated risk factors. UTIs remain a huge burden on our healthcare system. Presence of abx resistance proposes a greater challenge when managing these infections.
Bjorkman, I., Berg, J., Viberg, N. & Lundborg, C.	Awareness of antibiotic resistance and antibiotic	To improve education & information for GPs in	20 GPs from 15 health centers	Qualitative study LOE: 6	Whether physicians follow guidelines depend on the patient-physician relationship and the belief of presence of antibiotic resistance.

<p>S. (2013)</p>	<p>prescribing in UTI treatment: a qualitative study among primary care physicians in Sweden</p>	<p>relation to rational antibiotic prescribing for UTI. To identify GPs' views of resistance and how it affects choice of treatment</p>			<p>Physicians who believe that there is a problem with antibx resistance are more likely to prescribe prudently while adhering to guidelines.</p> <p>Those who do not believe that it resistance is a problem are likely to be non-compliant. There is a need to study whether patients' expectations for antibiotics affect prescribing behavior.</p> <p>Need more insight "into the importance of views on resistance and the changes in prescribing behavior".</p>
<p>Rodrigues, A. T., Roque, F., Falcao, A., Figueiras, A. & Herdeiro, M. T. (2013).</p>	<p>Understanding physician antibiotic prescribing behavior: A systematic review of qualitative studies</p>	<p>Exploring physicians' perceptions of factors influencing abx prescribing</p>	<p>n/a</p>	<p>Systematic review of qualitative studies LOE = 5</p>	<p>6 attitudes identified: complacency, fear, ignorance, indifference, and responsibility of others, confidence. Extrinsic factors are listed in Table 3. Supervisor's influence during training.</p>
<p>Arizona Nurses Association Individual Activity Application Instructions (2012).</p>	<p>Individual Activity Application</p>	<p>n/a</p>	<p>n/a</p>	<p>n/a</p>	<p>Criteria required for development and submission of CE module.</p>

Hooten, T. M. (2012, May).	Uncomplicated urinary tract infection	N/A	N/A	CME	Accounts for 8.6 million visits in 2007. Annual self-reported UTI in women is 12% by age 32. Recurrence in 6mths after initial infxn occurs in 25% of women. Pyelo is rare in untreated cases of UTI. Risk factors: sex, spermicide, Hx of UTI. Sx: dysuria, with/without freq/urgency, pain, or hematuria. Urine Cx: is not indicative for Dx of UTI, but is indicated for all suspected pyelo. Beta-lactam resistant <i>E. coli</i> uropathogen is on the rise.
Kotwani, A., Wattal, C., Joshi, P. C., Holloway, K. (2012).	Irrational use of antibiotics and role of the pharmacist: An insight from a qualitative study in New Delhi, India	To understand the dispensing practices & behavior of pharmacists to develop a program promoting rational use of antibx	40 pharmacists	Qualitative study LOE: 6	Pharm prescribe & honor old prescriptions for antibiotics. Agree that over use = resistance. 1) Pt education needed to increase awareness of overuse and dangers 2) Need to change provider Rx behaviors Pharm companies are looking to increase profit margins thus increase antibx use.
Lawal, K. (2012, August).	Asymptomatic and symptomatic urinary tract infections: magnitude,	Differentiating between UTI and lower urinary infections, pathology and	N/A	Literature review LOE: 6	Described etiology, testing, risk factors, and Tx of UTIs. Provides statistics. <i>Chlamydia & Neisseria</i> are urethritis-causing agents. Presents with “dysuria, urgency, frequency & non-sig bacterial growth”.

	special settings and diagnostic testing	risk. General information.			Pyelo presents w/ flank pain, fever, N/V, chills, malaise.
Lopez-Vazquez, P., Vazquez-Lago, J. M. & Figueiras, A. (2011)	Misprescribing of antibiotics in primary care: a critical systematic review of its determinants	To identify factors, attitudes, and knowledge influencing misprescribing of antibiotics.	46 papers	Systematic review LOE: 6	Antibiotic resistance is a global problem. WHO approximated that resistance to <i>Strep pneumoniae</i> is about 70%. Unable to determine causes of over prescribing of antibiotics but the common reasons are complacency, indifference, ignorance and fear of potential repercussions. There is a clear association between the use of PCN & rate of PCN resistant pneumococci and fluoroquinolone resistant <i>E.coli</i> in Europe. Fulfilling pts' expectations (complacency).
Lowe, N. K., & Ryan-Wenger, N. A. (2012, May)	Uncomplicated UTIs in women	Determine the accuracy of Dx UTI via dipstick vs C&S	N= 263 women w/ urinary and/or vag symptoms	Literature review LOE: 7	Need to educate patients re: perineal hygiene & health behaviors to decrease the risk of UTI. Urethritis, unrelated to chlamydia or cystitis, might account for urinary symptoms. UTI symptoms with or without GU symptoms, 28% have positive urine C&S w/ neg dipstick vs. 16% positive urine C&S respectively. Dx of non-UTI was 6x greater in females presenting with urinary & GU symptoms. This cohort sample resulted in 2.8% positive for chlamydia & <1% gonorrhea.
Mangin, D.,	<i>Chlamydia</i>	Whether first	N=100. Women	Prospective	Timing of urine collection is irrelevant in

Murdoch, D., Wells, J. E., Coughlan, E., Bagshaw, S., Corwin, P., Toop, L. (2012).	<i>trachomatis</i> Testing sensitivity in midstream compared with first-void urine specimens.	void better than mid-stream urine for chlamydial testing	who had been tested positive for chlamydia & returning for Tx. Subjects were pts at Sexual Health, Family Planning, & Youth Health clinics.	study LOE: 4	testing for Chlamydia using NAAT. There is an increase in prevalence of chlamydia in young adolescent girls.
Charani, E., Edwards, R., Sevdalis, N., Alexandrou, B., Sibley, E. Mullett, D., Franklin, B.D., & Holmes, A. (2011, October 1)	Behavior change strategies to influence antimicrobial prescribing in acute care: A systematic review	To determine prescribing behaviors in acute care setting	n/a	Systematic review LOE=5	<u>Large amt of evidence</u> linking excessive use of abx to increased incidence of <i>C.diff</i> . Cultural, behavioral determinants affect prescribing behaviors. Professional relationships within the workplace affects those behaviors as well & has a larger influence on decision-making compared to EBP guidelines.
Dryden, M., Johnson, A. P., Ashiru-Oredope, D. & Sharland, M. (2011)	Using antibiotics responsibly: right drug, right time, right dose, right duration	To provide optimal patient care while minimizing spread of antibiotic resistance	N/A	LOE: 7	Education is important in improving antibiotic prescribing behaviors. There is a need to develop and implement effective strategies. European CDC has implemented campaigns & initiatives to educate providers and the public about prudent use of antibiotics in a concerted effort to the curb the rates of resistance. Europe developed the Smart

					Start guidelines.
Gupta, K., Hooton, T. M., Naber, K. G., Wullt, B., Colgan, R., Miller, L. G., Soper, D. E. (2011, March 1).	International Clinical Practice Guidelines for the Treatment of Acute Uncomplicated Cystitis and Pyelonephritis in Women: A 2010 Update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases.	n/a	n/a	LOE: 1	<p>IDSAs guidelines.</p> <p>Macrobid 500mg po bid (5d); Bactrim 160/80mg bid (x3d). As long as local resistance < 20%.</p> <p>Antimicrobial susceptibility to <i>E. coli</i> should be considered since other G-/± bacteria are rarely isolated in uUTI's.</p> <p>Multi-drug resistance noted w/ use of broad-spectrum antibx such as cephalosporins & FQ. Decreasing inappropriate use of FQ would decrease rates of FQ resistance.</p> <p>Clinical cure rate w/ macrobid is 88-93%. No diff. in efficacy btwn macrobid and bactrim in meta-analysis of studies. Current RCT shows strong evidence for macrobid as effective agent, 5d just as effective as 7d.</p>
McKinnell, J.A., Stollenwerk, N. S., Jung, C. W., & Miller, L. G. (2011, June)	Nitrofurantoin compares favorably to recommended agents as empirical treatment of uncomplicated UTI in a	Analysis of costs of nitrofurantoin use compared to other antibiotic in the Tx of uncomplicated UTI	Females 18y & older.	Decision analysis model.	<p>5-d nitrofurantoin is recommended by 2011 IDSA guidelines as first-line Tx for uncomplicated UTI. It is more cost-effective. FQ not recommended d/t increasing resistance.</p> <p>Costs associated w/ antibiotic use listed. IDSA (2011) discouraged use of FQ for Tx uUTIs b/c resistance has major implications for future Tx of more serious infxns.</p>

	decision and cost analysis				1995, cost to treat uUTIs was \$1.6 billion.
Wagenlehner, F. M., Hoyme, U., & Schmiemann, G. (2011, June).	Uncomplicated urinary tract infections	Re-evaluating current Tx for UTI	N/A	Systematic search LOE = 6	Guidelines abroad were included in the systematic review of publications on Tx of uUTI. As a result, new guidelines were established. Evaluating rise of antibiotic resistance as well as collateral damage from use of antibiotics.
Bekkers, M. J., Simpson, S. A., Dunstan, F., Hood, K., Hare, M., Evans, J., Butler, C. C., & STAR study team (2010)	Enhancing the quality of antibiotic prescribing in primary care: Qualitative evaluation of a blended learning intervention	To heighten awareness and encourage revision of physical prescribing behaviors	244 GPs & 68 FNP Semi-structured digitally recorded & transcribed phone interviews.	RCT LOE=1	Resistance to G- bacteria is a problem. UTIs mostly d/t G- bacteria. PCPs fail to see that as a problem. Theory of planned behavior & social learning theory. Provider education boost self-confidence, raises awareness of problem, reinforces existing knowledge. Cost of seminars & taking time off to F/U w/ CEUs. Development of new drugs is costly & lengthy. Very few new classes of drugs are expected in the near future.

Deuster, S., Roten, I., & Muehlebach, S. (2010).	Implementation of treatment guidelines to support judicious use of antibiotic therapy.	Changing Rx practices to adhere to guidelines. Reducing redundant therapy & decreases costs.	Teaching hospital w/ 550 beds in Switzerland.	Chart review LOE=	Rx practices improved immediately after educational in-service.
Srinivasan, A. (2010, December 17)	Antibiotic resistance: A mandate for change.	Antimicrobial resistance across the continuum of care: Winning the war one battle at a time	n/a	Webinar presentation	In ambulatory care, approximately 50% abx prescribed were unnecessary. Improving abx use saves money. Misuse of abx is not new and has a large impact on society, not just the individual.
Srinivasan, A., Fishman, N.O., Septimus, E.J., & Cosgrove, S.E. (2010, December 17)	Antibiotic resistance across the continuum of care: Winning the war one battle at a time	Identifying factors contributing to AR. Recognizing pressures to Rx abx.	n/a	CE module	Abx misuse is widespread. Imperative to promote proper abx use. There is an increase in use of broad-spectrum 2 nd gen macrolide & 3 rd gen cephalosporins. Providers are concerned about disappointing pts b/c that would decrease satisfaction scores & lose patients. There is an increase in C. diff d/t abx use. 20% ED visits are d/t complications from abx use. Treat uUTI for 3d. There is a danger of returning to pre-antibiotic era.
Deasy, J. (2009, May).	The antibiotic challenge: Changing	N/A	N/A	CME	Accounts for approx 8 million visits a year. <i>E.coli</i> is uropathogen in 80-85% cases. 2001: resistance to <i>E. coli</i> was 16%

	clinical management of infections				1990: Resistance to TMP/SMX was 0-5% Increased use of FQ for Tx cystitis is leading to increased resistance. Nitrofurantoin is ineffective against <i>Proteus</i> , <i>Enterbacter</i> & <i>Klebsiella</i> . <i>C. difficile</i> is G+ bacilli. Associated with 15-25% case of diarrhea after abx administration.
Leyden, G. M., Turner, S., Smith, H. & Little, P. (2009)	The journey from self-care to GP care: a qualitative interview study of women presenting with symptoms of urinary tract infection	To explore women's experiences of self-care and their journey to GP care, when faced with symptoms of a UTI	21 women interviewed	Qualitative study LOE: 4	Typical approaches to Tx of UTI by GPs in England: Encourage fluid intake (40% of pts w/ symptoms do not have an infxn; if lab confirms infxn, might be self-limiting). Presence of 2 out of 4 symptoms (cloudy, odor, pain, nocturia) lead to automatic antibx treatment. Sensitivity of this method, 60%. Treat with antibx in presence of positive UA. If the pt does not meet the above criteria and symptoms do not resolve in a few days, antibx would be Rx'd. Reasons for women's visit to their GP: symptoms escalating, not getting better, inferring with normal ADL and concern for more serious infections.
Robbins C. & Shew, M. L. (2009)	UTIs in adolescents	Appropriate Dx & Tx of UTIs & STIs in teens	N/A	Descriptive study LOE = 6	Signs that point to possible STIs described. It is important to establish an accurate diagnosis in order to provide proper treatment while minimizing potential for long-term complications as well as antibiotic resistance. Urine dipstick will be positive in the presence of bacteria but does not differentiate between UTI and STI. Mixed flora, suspect cross-contamination.

Taylor, B., & Kroth, M. (2009).	Andragogy's transition into the future: Meta-analysis of andragogy and its search for a measurable instrument	n/a	n/a	Meta-analysis LOE = 1	Theory of andragogy based on Knowlesian assumptions.
Barclay, L. (2008, March) www.medscape.org/viewarticle/517545	New guidelines for management of urinary tract infection in nonpregnant women	n/a	n/a	EBP guidelines LOE: I	<p>Complicated UTIs (w/ concurrent DM, abnormal anatomy, previous urologic, renal stones, pregnancy). Decrease colony count to 1000 vs 10,000 bacteria per milliliter will improve sensitivity w/o compromising specificity.</p> <p>Antibx class should be changes in areas where resistance is 15-20%. LOE A states that antibx should be restricted to 3days w/ bactrim being preferred first-line.</p> <p>In 2000, cost of evaluation/Tx of uUTIs on the HC system was estimated at \$3.5 billion.</p> <p>3-d course Tx is recommended. Eradication rates >90%.</p>
Ji, J., Sklar, G.E., Oh, V.S.M, & Li, S.C. (2008)	Factors affecting therapeutic compliance:	To explore and evaluate the most common	n/a	Qualitative review LOE=4	Trust btwn pt-physician has a large influence on medication compliance. Shorter medication therapy would likely motivate pts compliance. Explaining & involving pt in development of

	A review from the patient's perspective	factors affecting patient non-compliance			Tx plan would be beneficial. Non-compliance has been associated with increased UC visits, hospitalizations, & Tx costs. Non-compliance has been an issue since the 70s.
The McDonnell Norms Group (2008).	Antibiotic overuse: The influence of social norms.	N/A	N/A	LOE = 6	Stated consequences of antibx use wrt 2ndary infxns. Externalities impacting use. Establishment of prescribing & social norms. Pt-phys-societal norms. Pt-physician relationship.
Jackson, M. A. (2007)	Evidence-based practice for evaluation and management of female urinary tract infection	N/A	N/A	Lit review LOE: 6	Common in females d/t anatomy. Shorter urethra & close proximity to rectum allowed for increased susceptibility for bacterial colonization. S&S = dysuria, frequency, urgency, pelvic pressure/pain. Nitrites may be negative for vegetarian. Urine C&S is not indicated in pre-menopausal women w/ uUTI. Asymptomatic UTI should not be treated in non-pregnant women. Pyridium is ill-advised b/c it can mask symptoms of pyelo, renal abscess or urinary obstruction. Urine C&S is needed if symptoms persist after being on antibx for 3 days d/t Tx failure .
Norrie, P., & Dalby, D. (2007).	How adult are our learners?	Explore whether the progression	N=555 Cross-sectional	Qualitative review	Relationship and social pressures can affect learning.

		from pedagogic to andragogic learning occurs across an undergrad program	sampling	LOE: 6	Assume students will work productively and co-operatively with facilitators to complete learning outcomes. Knowles 6 principles of learning. Concluded that more senior and older students exhibited fewer characteristics of the adult learner.
Platt, F. W. & K. N. Keating (2007)	Differences in physician and patient perceptions of uncomplicated UTI symptom severity: understanding the communication gap	Determine the gap in communication between providers & patients especially uUTI and its impact on treatment	n/a	Lit review LOE = 7	Gap in perception re: severity of uUTI between patients and providers are established here. Risk factors affecting UTI may be genetic, behavioral, or biological. Some pts are asymptomatic whereas others are symptomatic w/ low CFU/mL. Need to address perceived barriers and benefits of Tx. Some pts have self-Dx prior to their OV thus the providers are pressured to Rx antibx. Both parties have different perception of pain. Giving info is not equal to educating the patient. Empathy toward the pt, enlistment, education and engagement of patient in their treatment plan may be more beneficial to improved Tx and outcome.
Kardas, P & Bishair, W.R. (2006, July)	Compliance in anti-infective medicine	To examine the issue of non-compliance and its effects on the individual and society	n/a	Lit review LOE=6	Most <u>common forms</u> of non-compliance: unintentional omission of single dose of abx, saving abx for later use, conscious omission, failure to start Tx. <u>Factors</u> affecting non-compliance: Cost, duration of tx, pt beliefs, & side effects.
Nicolle, L., Anderson, P.	Uncomplicated urinary tract	To review Tx recommendations	n/a	Lit review	Provides clinical evidence for first-line antibx therapy.

<p>A., & Zhanel, G. G. (2006, May 10).</p>	<p>infection in women.</p>	<p>options for empiric therapy of uUTI</p>		<p>LOE=7</p>	<p>Current options for Tx displayed. Widespread uses of antibx contribute to the development of resistance.</p> <p>Short-course antibx Tx recommended. FQ not recommended 1st-line Tx b/c of risk resistance, which will affect Tx of more serious infxns.</p> <p>Macrobid (narrow spectrum) used for decades w/ little incidence of resistance. Some research guidelines developed in hospitals & thus do not apply to general setting. Conflicting guidelines impair provider’s judgment & decision-making. Amox used to be 1st-line Tx, now there is 50% resistance in N.A. uUTI will resolve in 2-4wks w/o Tx in 50% of women. Dysuria, frequency & urgency are classic symptoms. Appropriate antibx use is defined by the CDC as one that “maximizes therapeutic effect while minimizing risk of increased resistance”</p>
<p>Ansbach, R. K., Dybus, K. & Bergeson, R. (2005)</p>	<p>Uncomplicated <i>E. coli</i> urinary tract infection in college women: A follow-up study of <i>E.</i></p>		<p>98 females with uncomplicated UTI</p>	<p>Retrospective chart review LOE: 4</p>	<p>Antibiotic resistance of <i>E. coli</i> is increasing. <i>E. coli</i> is the most common uropathogen.</p> <p>Resistance has been found to vary by geographic region. Bactrim DS is the first-line of treatment for UTI per IDSA guideline. Use short-course therapy.</p>

	<i>coli</i> sensitivities to commonly prescribed antibiotics.				
Kahan, N. R., Chinitz, D. P., & Kahan, E. (2004).	Longer than recommended empiric antibiotic treatment of urinary tract infection in women: an avoidable waste of money.	Recommended guidelines to empiric Tx of UTI. Calculated cost of Tx.	Data obtained from medical records of women Dx w/ cystitis/UTI between 18-75y over period 18mths.	Retrospective cohort study LOE: 4	High rate of non-compliance with recommended drug therapy & long duration of Tx for UTIs.
Kahan, N. R., Chinitz, D. P., Waitman, D. A. & Kahan, E. (2004, July).	Empiric treatment of uncomplicated UTI in women: wasting money when more is not better.	To evaluate the economic impact of physician non-adherence to recommended guidelines for antibx use and duration of therapy.	N=7738 cases of physician-patient encounters obtained from EMRs. Women were btwn 18-75years old.	Retrospective cohort study LOE: 4	Non-adherence to guidelines set forth for Tx of antibiotic resistance has cost the healthcare system a lot of money, wasted resources, causing patients unnecessary harm due to side effects from these drugs.
Cosgrove, S.E. & Carmeli, Y. (2003)	The impact of antimicrobial resistance on health and	n/a	To provide a framework for reading & interpreting	Lit review LOE: 7	Studies have shown that resistance often cause delays in administration of effective antibx thus are associated w/ SE. More toxic therapies are needed to treat

	economic outcomes		studies that examine outcomes for pts w/ antibx resistance		resistance. 1995, cost of resistance wrt patient care alone was \$4 billion/y in the US.
McGowan Jr., J. E. (2001, April)	Economic impact on antimicrobial resistance	Address the economic impact on physicians, patients, and public health	N/A	Lit review LOE: 6	Increased cost of Tx: pts pay more for drugs & services. Pharm companies are motivated by sales. Different perspectives on antibx resistance. Pts experience loss of \$\$ d/t cost of drugs, length of sick days, increased hospital stays. Several combos of drugs are used to battle resistance. Primary concern for pharm companies consists of the cost of developing new class of drugs & profit margin once on the market.
Malterud, K., & Baerheim, A. (1999).	Peeing barbed wire	The purpose of this study as stated by the author was to explore the various symptoms experienced by women suffering from cystitis.	Sample size was 94 women suspected of cystitis, with a mean age of 44.8 years. Originally 194 were consulted.	Qualitative study LOE: 6	Physicians must be aware of patient's description of urinary symptoms & their underlying meaning in the presence of language barrier as well as those not medically savvy. Pts' use of medical terms might not be accurate just b/c they have heard or been told before. Pts might misunderstand those terms.
Thom, D. H.	Patient-	To gain an	N=29	Qualitative	Whether patients felt heard, understood during

& Campbell, B. (1997).	Physician Trust: An exploratory study	understanding of components of trust in the context of pt-physician relationship		research Cohort study LOE = 4	their OV. Exploring lines of communication, caring, respect, and staffing issues encountered by patients.
Case, S.M. & Swanson, D.B. (1996).	Constructing written test questions for the basic and clinical sciences. <i>National Board of Medical Examiners.</i>	n/a	n/a	n/a	Guide to writing MCQ. I am using this to help me write test questions for me CE module.
Nazareth, I. & King, M. (1993)	Decision making by general practitioners in diagnosis and management of lower urinary tract symptoms in women	To identify factors influencing GPs in the diagnosing and Tx of lower UTI symptoms in women	6 GPs. All women between 16-45y presenting w/ UTI symptoms over a 3mth period	Qualitative study LOE: 6	GPs were 12x less likely to Rx antibx to pts they know well. They feel more comfortable explaining the need to delay or withhold treatment to those patients b/c they feel less pressured. GPs are more conservative in their Tx of the elderly and are 6x more likely to Rx antibx for them.
Hilbert, D. W. (n.d.).	Antibiotic Resistance in	n/a	n/a	Current findings	1997, the last year epidemiological data was available; there were 7 million OV & 1 million

	<p>Urinary Tract Infections: Current Issues and Future Solutions.</p>			<p>LOE = 1</p>	<p>ER visits.</p> <p>Tx for UTIs amounted to \$1.6 billion in 1995.</p> <p>Female urethra is shorter thus easier access for pathogens into bladder. <i>E.coli</i> is responsible for 80% of infections. 1st-line Tx is macrobid bid 5d or bactrim bid 3d.</p> <p>Typical guideline, which vary for determining UTI IS 10,000 to 100,000CFU/mL.</p>
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*Appendix D***Continuing Education Module**

Target audience: This continuing education module is intended for health care providers (HCPs) who deliver primary patient care such as nurse practitioners, physician assistants, and physicians.

Intended Learning Outcomes

After completion of the CE module, participants will be able to:

- 1) Differentiate between complicated and uncomplicated urinary tract infections
- 2) Describe the symptoms of uncomplicated UTI
- 3) Discuss causes of increasing rates of antibiotic resistance
- 4) Identify differential diagnoses for dysuria
- 5) Incorporate the current EBP guidelines recommended by IDSA into care decisions
- 6) Implement the first-line of treatment for uncomplicated UTIs

Goal:

Upon completion of this CE module, providers will be able to improve the accuracy of their diagnosis as well as consider other potential differentials that might mimic symptoms of uncomplicated UTIs.

Pre & post-test

This vignette applies to the following 2 questions:

A 19-year-old female patient has complaints of dysuria, urinary frequency, urgency, and vaginal discharge for the past 4 days. Symptoms have been worsening. Patient is sexually active with a history of frequent UTIs. Urine dipstick was positive for leukocytes only.

- 1) Which of the following is the most likely differential diagnosis for dysuria?
 - a) Herpes
 - b) Syphilis
 - c) Chlamydia trachomatis
 - d) None

- 2) What should your examination include?
 - a. A pelvic exam
 - b. Urine culture and urine test for chlamydia/gonorrhea
 - c. Start antibiotic treatment
 - d. No further exam is needed

This vignette applies to the following 2 questions:

A 65-year-old post-menopausal woman presents in the clinic with complaints of urinary frequency, urgency, and suprapubic pain, over the last 2 days. She denies fever, nausea, flank pain, or vaginal discharge. The patient's medical history includes high blood pressure. She states that she never had a urinary tract infection until the onset of menopause. Since then, she has had about three urinary tract infections a year. Her urine dipstick is as follows: Small leukocytes, positive nitrites, negative glucose/protein/bilirubin/blood, specific gravity is 1.015.

- 3) What is the patient's diagnosis?
 - a) Overactive bladder
 - b) Stress incontinence
 - c) Kidney stone
 - d) Urinary tract infection

- 4) What is the most likely reason for the patient's increased frequency of symptoms?
 - a) Low estrogen due to menopause
 - b) Drinking too much water
 - c) STD
 - d) Diabetes

This vignette applies to the following 2 questions:

5) *Ms. Jones, is a 34-year-old woman who had a UTI last month. She has been prone to getting UTI's frequently for the past two years. She was given ciprofloxacin 500mg po bid for 10 days. Ms. Jones returns to the office reporting the same symptoms as last month: frequency, urgency, burning, and urinary odor. She tells the health care provider (HCP) that she has had the symptoms for a week, and did not finish the entire course of treatment because she started feeling better. She explains when the symptoms started again, she took some of her left over antibiotics, but they did not help. She denies experiencing vaginal discharge.*

Upon examination, Ms. Jones had no CVA tenderness. Vital signs were within normal limits. Urine dipstick was normal. What is the HCP's next step?

- a) Treat with another course of antibiotics
 - b) Send urine sample for culture and sensitivity. Withhold antibiotic treatment until results have been received.
 - c) Order a KUB.
 - d) Tell her to finish whatever antibiotic she has leftover from previous infections
- 6) Ms. Jones non-compliance with antibiotic treatment puts her at risk for what?
- a) Antibiotic resistance
 - b) Increased likelihood of self-medicating in the future
 - c) Interstitial cystitis
 - d) Allergic reactions to antibiotics within the same class
- 7) What is the current first-line therapy for treatment of uncomplicated UTIs in women based on the 2010 IDSA recommendations?
- a) Ciprofloxacin 500mg po bid for 10 days
 - b) TMP/SMX DS 500mg po bid for 3 days
 - c) Ciprofloxacin 250mg po bid for 7 days
 - d) Nitrofurantoin 500mg po bid for 5 days
- 8) What is the best way to ensure patient compliance with respect to completion of prescribed course of antibiotic treatment?
- a) Prescribe a short-course antibiotic regimen as recommended by IDSA guidelines
 - b) Administer an injection of Rocephin 1gram intramuscularly instead of prescribing oral antibiotics
 - c) Have patient increase fluid intake of approximately 8 to 10 glasses of fluids daily until symptoms resolve
 - d) Take herbal remedies

This vignette applies to the following 2 questions:

A female patient presents in the office for complaints of urinary frequency, urgency, and burning for the past three days. The patient states that she been increasing her fluid intake. Past medical history includes type 2 diabetes, renal insufficiency, and coronary artery disease. Physical examination reveals that she is afebrile; vital signs were normal, and no CVA tenderness. Urine dipstick was positive for leukocytes, nitrites, specific gravity 1.020, and trace blood.

9) What is the most likely diagnosis?

- a) Overactive bladder
- b) Complicated urinary tract infection
- c) Urethritis
- d) Urine retention in the bladder

10) Uncomplicated UTI is defined as:

- a) Less than 3 episodes of UTI per year
- b) Frequent UTIs due to vesicoureteral reflux
- c) UTI in the absence of comorbidities
- d) UTI associated with sexual activity

Questions for post-test only:

11) How likely are you to adhere to use first-line treatment recommended by IDSA for uncomplicated UTIs in women?

- Very likely Likely Neutral Not likely Not at all

12) How helpful was this CE module to your practice?

- Very helpful Somewhat helpful Neither Not so helpful Unhelpful

Appendix E

Arizona Nurses Association Individual Activity Application Instructions

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ASSOCIATION

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ELIGIBILITY

Activity topics must meet the definition of continuing nursing education.

Continuing Education is the systematic professional learning experience designed to augment the knowledge, skills, and attitudes of nurses and, therefore, enrich the nurses' contributions to quality health care and to their pursuit of professional career goals. Thus, the knowledge, skills, or attitudes gained from continuing education activities can be applied regardless of the activity participant's employer.

Examples of individual CE activities include (but are not limited to) the following:

- Live Instructor Facilitated Event (Seminars, workshops, conferences, courses)
- Independent Study (Online courses, self-learning modules, teleconferences, webinars, and audio conferences)
- Presenters employed by a commercial company ONLY IF the program does not, in any way, refer to a product and is an important, relevant topic

In-Service Education or Staff Development Activities—consist of activities intended to enhance performance in the participant's current job role and are based on a specific facility/organization's policies and procedures, equipment, and resources. IF in-service education or staff development activities contain content that is transferrable to another job setting, it MAY be considered eligible for contact hours.

Examples of activities NOT eligible for contact hours include (but are not limited to) the following:

- Activities that address how to utilize the equipment of a particular organization or hospital
- Activities that address a particular organization's policies and procedures
- Commercial interests (including speakers from industry)
- Programs or topics that refer to a product
- Activities that focus on financial planning and retirement are not considered eligible for continuing education.

Knowledge and use of adult learning principles should be reflected in all aspects of the educational design, i.e. objectives, content, teaching methods, etc.

Applications must be submitted and approved BEFORE the activity date. Continuing education committee members and review panel members have specific criteria they follow when reviewing an application. These criteria are dictated by the American Nurses Credentialing Center's Commission on Accreditation. Failure to comply with reviewers' requests could jeopardize contact hour approval for the activity.

Applications for approval should be submitted 30 days prior to the date of the activity.

APPROVAL PERIOD

Each application is approved for **two years** from the approval date.

- The same activity can be repeated as often as desired during the two-year period as long as the objectives, content and speakers **remain the same** as determined by the designated Nurse Planner.
- If a speaker changes, but a new speaker will continue to present the same content, objectives and time frames, written notification must be sent to the AzNA office regarding this change as well as a biographical data form for the new speaker.
- If the designated Nurse Planner changes, please submit a new signed biographical data form within 30 days after the change to AzNA.

The applicant must periodically review the activity to determine that content is still relevant, objectives are addressing needs of the target audience and speakers are appropriate, etc.

NOTE: The designated Nurse Planner is accountable for all aspects of the application process. While other support staff may assist in gathering important data and materials, the Nurse Planner is ultimately responsible to assure that the activity meets eligibility criteria and the planning process is undertaken according to AzNA and ANCC criteria.

APPLICATION FEES

Fees must be submitted with the application and *are non-refundable once the review process has begun*. AzNA reserves the right to change fees at any time without notice.

The current fee structure is as follows:

INITIAL APPLICATION SUBMISSION FEE	
Contact Hour	Fee
0.5 – 2.0	\$95
2.1 – 4.0	\$120
4.1 – 8.0	\$145
8.1 – 16.0	\$170
16.1 -20.0	\$195
20.1 – 30.0	\$220
30.1 - more	\$245

*** No applications will be accepted five days prior to the planned activity.

LATE APPLICATION FEES	
Application Received 14 to 30 days prior to activity date	\$75
Application Received 5 to 14 days prior to activity date	\$150
No application will be accepted less than 5 days prior to activity date	

COMPLETING THE INDIVIDUAL ACTIVITY APPLICATION FORM [\(top of document\)](#)

Use the document named "INDIVIDUAL ACTIVITY APPLICATION FORM." Be sure to completely fill in all information requested at the top of the form.

Note: The following criteria are outlined and numbered to correspond with the application form.

ORGANIZATION/EVENT DATA

This section includes name of the organization, title of the event, date to be presented, contact hours to be awarded, and physical location (if applicable).

Note: The date of the activity must be in the future, since contact hours cannot be awarded retroactively. If the date is "to be determined," state when it might be scheduled in the future. (For example, to be scheduled once form meets criteria, or to be scheduled after "x" date [in future]).

PAYMENT INFORMATION

CE fees must be received prior to the review of the activity. An activity will not be sent to the review panel until fees are received. The CE review fee can be paid by check or credit card.

WEBSITE CALENDAR

Approved activities will be posted to the AzNA website (www.aznurse.org) Calendar of Events if received and approved 30 days in advance. This is an effective, free method for advertising your activity/program! Please provide a website address so that interested participants can contact you.

NURSE PLANNER CONTACT INFORMATION

The nurse planner is the primary contact person for this activity. The nurse planner is ultimately responsible for all of the information on the application and is responsible for all aspects of the planning process. The nurse planner will be contacted about any information on the application that is missing or needs clarification.

If another contact is needed, the name of that individual can be provided in the section entitled "Additional Contact Information."

POST ACTIVITY SUBMISSION CHECKLIST

The applicant **MUST** provide the following items within thirty (30) days of the completion of each activity. Failure to provide these items will automatically result in a fee being automatically assessed to the applicant:

- A list of the participants who attended/participated in the activity
- A summary of course evaluations

NOTE: Communication regarding approval status is conducted via email unless otherwise requested on application.

ACTIVITY CHECKLIST

The following list provides a checklist of items that must be included in the application packet:

PRE-ACTIVITY REQUIREMENTS (Due at time of application submission)	
Needs assessment completed and summary attached	
Biographical data forms with COI forms for each planning committee member, content expert, faculty, presenter, and/or author	
Documentation form with Gap Analysis, Learning Purposes/Goal, time frames, measurable objectives, content, and teaching/learning strategies	
Evaluation form and any other evaluation tools used (e.g., post-test, etc.)	
Advertising materials (flyers, emails, web pages, brochures, etc.)	
Certificate of Completion	
Disclosure statements complete	
• Purpose/goal of activity	
• Learning objectives	
• Criteria for successful completion	
• Conflict of interest (or lack thereof)	
• Relevant financial relationships (or lack thereof)	
• Commercial support and types (or lack thereof)	
• Non-endorsement of products	
• Discussion of off-label use (or lack thereof)	

<ul style="list-style-type: none"> • Endurable materials expiration date (if applicable) 	
Co-provider agreement (if applicable)	
Commercial Sponsorship Agreement(s) if applicable ** Please see “Note” in Payment Information section above	
POST-ACTIVITY REQUIREMENTS (Due within 30 days of initial activity)	
List of Participants ** Please see “Note” in Payment Information section above	
Summary of course evaluations ** Please see “Note” in Payment Information section above	

1. Type of Activity

Determine which type of activity you are planning.

- A Live Instructor Facilitated Event indicates the program will take place face to face (e.g. workshops, seminars, and conferences).
- An Enduring Material/Independent Study indicates that the event will NOT be conducted live and the participant is required to complete the program (e.g. Online courses, self-learning modules, teleconferences, webinars, and audio conferences).

2. Assessment of Learner Needs

Continuing education activities are developed in response to and with consideration for the unique education needs of the target audience.

- Identify the type of needs assessment methods used. Several options are provided for you. Check all that apply.
- Identify the target audience who is expected to attend the event (**must include RNs**). Check all that apply.
- Describe the source of the supporting evidence for the needs assessment. Check all that apply.
- Describe how objectives, content, and teaching-learning strategies were developed in response to the needs assessment.

3. Qualified Planners and Faculty

Each educational activity is planned collaboratively by at least one designated nurse planner and one other individual.

Planning committee members must fulfill the three roles:

- knowledge of CE Process (Nurse Planner)

- content expert; and
- representative of the target audience.

There must be at least two people on the planning committee—one person can fill one or more of these roles. Nurse planners contribute oversight and must actively be involved in both the planning and the analysis of evaluation data for the educational activity.

The approved provider unit's designated Nurse Planner(s) must be a registered nurse and must hold a baccalaureate degree in nursing or a higher degree in nursing. Additionally, the designated Nurse Planner must have education or experience in the field of education or adult learning.

Identify the Nurse Planner(s) and all other persons who participated in the planning process. Document the **credentials** and **degrees** of the Nurse Planner, Planning Committee members, and Content Specialists/Authors/Faculty/Presenters. Content specialists/authors/faculty/presenters should have qualifications that demonstrate their education and experience in the content area they are presenting. Expertise is a subjective matter and can be evaluated based on education, professional achievements and credentials, work experience, honors, awards, professional publications, etc. on the specific topic.

All presenters/faculty/authors do not have to be nurses, but nurses should address nursing care and nursing implications.

While professional biographies (CV or resume) are not required but may be provided as additional documentation, the AzNA Bio Form MUST be submitted for each presenters/faculty/authors and each member of the planning committee.

Be sure the **specific name** of a target audience member is provided.

NOTE: The target audience member must be at least a Registered Nurse. LPNs/LVNs, types of other professionals, and the words “registered nurse” are not acceptable.

- a. The planning committee assures the qualifications of the content specialist/author/faculty/presenter are appropriate and adequate.
 - i. The Lead Nurse Planner must be responsible for adherence to the ANCC/AzNA criteria. Thus, this “box” must always be checked.
 - ii. Identify how the lead nurse remains current on accreditation and continuing education criteria.
- b. Describe how:
 - i. the planning committee ensures that the selected content specialist/author/faculty/presenter meet the needed qualifications for the designated activity.
 - ii. The qualifications for content specialist/author/faculty/presenter are identified
 - iii. The qualifications of the content specialist/author/faculty/presenter are appropriate for the activity topic.

Complete Biographical Data Forms (including conflict of interest disclosure forms) must be obtained on all content specialist/author/faculty/presenter to identify the presence or absence of

any potentially biasing relationships of a financial, professional, or personal nature on the part of those who have an impact on the content of an education activity.

You must be able to show that each presenter with a conflict of interest has disclosed all financial relationships with any entity with a commercial interest.

A presenter indicating that he/she does have a conflict of interest must specify what that conflict is and how it was resolved. Participants must be notified via a written notification prior to the beginning of the program.

NOTE: Verbal announcements made at the beginning of the event are NOT acceptable.

4. Effective Design Principles



- a. Clearly identify the overall learning purpose/goal for the activity with explicit education objectives that are appropriate for the target audience. The learning purpose/goal for the activity is NOT a list of the learning objectives for the activity. Instead, it should be 1-2 sentences written as outcome statements (e.g., “The purpose of this activity is to enable the learner to...”).
- b. **Documentation Form:** Use the Individual Activity Documentation Form for items i-vii. Additional rows can be added to the document or copies may be made as necessary and each page should be numbered and collated. If the activity occurs over multiple dates, be sure to place a date and then subsequent activities in chronological order.

i. Identified Gaps (Based on Needs Assessment): Gaps in knowledge, skills, and practice are based on the *needs assessment* and are reflected the overall purpose/goal of the activity.

ii. Purpose/Goal: Stated in relation to the outcome desired of the learner at the conclusion of the activity.

ii. Time Frame, Agenda/Schedule and Contact Hours:
List start and stop times and number of minutes for each session. Include evaluation time and question and answer periods. List the total number of contact hours provided for the event.

Note: The educational activities, the level and amount of content to be provided, and the estimated number of participants dictate the amount of time that will be required. Each topic area should have a designated time frame. The time allotments for each session should be sufficient to allow the learner to achieve the stated objective.

The time spent on welcome, introductions, pre/post tests, breaks, and evaluation needs to be clearly and separately stated.

Include these in the calculation of contact hours.	<ul style="list-style-type: none"> • Topic content • Pre/post-tests • Demonstration/return demonstration
DO NOT include these in the calculation of contact hours	<ul style="list-style-type: none"> • Welcomes • Introductions to people and space • Breaks • Exhibits <p>DO NOT include the total number of minutes for these aspects of the activity.</p>

iii. Presenter/Title of Presentation: List the person(s) presenting the content for each session and the title of the presentation.

Note: Presenters/faculty/authors must have documented qualifications that demonstrate their education and experience in the content area they are presenting.

iv. Objectives: Indicate what the participant will be able to do at the conclusion of the activity.

Note: The objectives are derived from the overall purpose of the activity.

- An average of 2-3 objectives per hour is realistic. Number each objective consecutively.
- Educational objectives are written statements that describe the learner-oriented outcomes, which may be expected as a result of participation in the educational activity. Specify one action or outcome per objective.
- In the case of most CE activities, these statements describe knowledge, skills, and attitude changes that should occur upon successful completion of the activity.

- Determination of objectives is a collaborative activity between planners and presenters.
- **Learner-oriented outcomes** are expressed in **measurable terms** (e.g. “identify,” “describe,”), *identify observable actions, and specify one action or outcome per objective.*
- The number of objectives for the program should be sufficient to accomplish the intended purpose of the activity.

In most cases an objective should have only one verb to make it easier to evaluate the learner’s achievement of the objectives. Examples of behavioral verbs are included below. **NOTE: The words “learn”, “understand” and “know” are NOT measurable behavioral verbs.**

Sample List of Verbs for Writing Measurable Behavioral Objectives

	COMPREHENSION	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
KNOWLEDGE					
cite	associate	apply	analyze	arrange	appraise
count	classify	calculate	appraise	assemble	assess
define	compare	complete	contrast	collect	choose
draw	compute	demonstrate	criticize	compose	critique
identify	contrast	dramatize	debate	construct	determine
indicate	describe	employ	detect	create	estimate
list	differentiate	examine	diagram	design	evaluate
name	discuss	illustrate	differentiate	detect	grade
point	distinguish	interpret	distinguish	formulate	judge
read	explain	interpolate	experiment	generalize	measure
recite	estimate	locate	infer	integrate	rank
recognize	express	operate	inspect	manage	rate
record	extrapolate	order	inventory	organize	recommend
select	interpret	predict	question	Plan	revise
state	interpolate	practice	separate	prepare	score
tabulate	locate	relate	summarize	produce	select
write	predict	report		propose	test
	report	restate		specify	
	restate	review			
	review	schedule			
	translate	sketch			
		solve			
		translate			
		use			
		utilize			

v. Content: Outline key points that will be addressed with each objective. Use numbers that correspond to the objectives.

Note: The content is related to and consistent with the objectives. Each objective should have a corresponding content outline. *The content must be more than a re-statement of the objective.* Number each content outline with numbers that correspond to the objectives.

Example Documentation of Objective and Content			
	Objective	Content	Reason
<u>Incorrect:</u>	1. Perform venipunctures using correct and safe procedures.	1. Perform venipunctures.	Do not restate objective as content.
<u>Correct:</u>	1. Perform venipunctures using correct and safe procedures.	1. Identification of site. 2. Cleansing of venipuncture site.	Content addresses what will be covered to meet objective.
<u>Incorrect:</u>	1. Differentiate between lethal and non-lethal rhythms	1. Rhythm interpretation	Inadequate to address topic.
<u>Correct:</u>	1. Differentiate between lethal and non-lethal rhythms	1. Lethal rhythms: <ul style="list-style-type: none"> • Asystole • v-fib, etc. Non-lethal rhythms: <ul style="list-style-type: none"> • Sinus • a-fib, etc. 	List content in bullets for easy reviewing.
<u>Incorrect:</u>	1. Know three cardiac drug classes	1. Beta blockers, diuretics, calcium channel blockers	“Know” is not a measurable objective
<u>Correct:</u>	1. List three types of cardiac drugs for hypertension	1. Beta blockers, diuretics, calcium channel blockers	
<u>Incorrect:</u>	1. Describe the symptoms and risk for a candidate for an angioplasty.	The major symptoms for an angioplasty.	Compound objective. Do not use the word “and.”
<u>Correct:</u>	1. Describe the symptoms of a person who is a candidate for an angioplasty. 2. Describe the risk factors for a person undergoing an angioplasty.	Symptoms of candidate for angioplasty: <ul style="list-style-type: none"> • Chest pain • Narrowing or blockage of arteries, etc. Risk factors for angioplasty: <ul style="list-style-type: none"> • Hematoma • Infection, etc. 	Content is simply a restatement of the objectives.

vi. Teaching Methods, Strategies, Materials, and Resources:

List the methods, strategies, materials, and resources to be used by faculty to cover each session.

Teaching/learning strategies must be congruent with objectives and content and can include (but are not limited to) lecture, PowerPoint/slide presentations, return demonstrations, pre- and post-tests, discussion, case studies, question and answer, etc.

Note: Instructional methods that support attainment of the educational objectives must be used. The action indicated as the expected outcome determines the teaching strategies to be used.

- For example, a learning objective that requires the learner to successfully demonstrate a psychomotor skill should include teaching strategies that utilize demonstration and return demonstration.
 - An objective that requires a learner to describe a phenomenon would include teaching strategies such as lecture and discussion.
 - In addition to teaching strategies that support the learning objectives, attention must be given to the fact that principles of adult learning should be evident in the selected strategies.
 - Teaching methods include but are not limited to lecture and discussion, panel discussion, role play, questions and answers, demonstrations, practice, pre-test, post-test, self-study module, electronic interactivities, specific audiovisuals, etc.
 - Materials and resources could include handouts, references, etc.
- c. **Learner Feedback Method**—Describe how learners will be provided with feedback about their successful completion of the activity.
- d. **Criteria for successful completion** (such as attendance at entire event; completion/submission of evaluation form; achieving passing score on post-test, etc.). NOTE: These criteria are the same items that must be stated in Disclosure 10c.
- e. Identify the **rationale for the method** selected to determine the criteria for successful completion.
- f. If **partial credit** is being awarded, describe how it will be awarded.
- g. **Method for verifying attendance/participation** (such as verification through sign in/attendance sheets, etc.)

Note: Criteria for verifying participation and successful completion must be determined as part of the overall planning of the activity and are consistent with the learning goal (purpose), objectives, and teaching and learning strategies of the activity.

- Educational activities may differ in expectation and requirements for verification of participation and successful completion of the activity.
- The learner is informed of these criteria **prior to participation in the activity**.
- Verification of participation may be achieved by a variety of methods.
 - For example, roll call, sign-in sheets, self-reported attendance, or return of evaluation tools can be used.

5. Contact Hour Credits

Contact hours are awarded to participants for those portions of the education activity devoted to didactic or clinical experience or to evaluating the activity.

Contact hours are calculated in a logical and defensible manner.

The appropriate measure of credit is the **60-minute contact hour**. A contact hour is 60 minutes of an organized learning activity, which is either a didactic or clinical

experience.

The **minimum number of contact hours to be awarded is 0.5** (30 minutes).

Contact hours may be calculated to the hundredths (i.e. 1.45, 0.90, etc.) The appropriate number of contact hours **may not** be reached by “*rounding up.*” This would imply that the learner attended more hours of continuing nursing education than s/he actually did.

If conducting an Enduring Material/Independent Study activity, the rationale and/or mathematical calculation used to determine the contact hours should be indicated as well as a description for the indication. For example, if a self-learning module program is being planned a pilot study could be conducted to see how long it takes participants to complete the module and then the average time is used as the amount of awarded contact hours.

Independent study applicant must demonstrate the rationale for determining the number of contact hours to be awarded. Examples of methods to determine contact hours include word count formulas, such as the Mergener formula, a popular and widely accepted method of estimating the number of hours a written (or online) continuing education project will take to complete.

A Mergener Formula calculator, provided by Stephen Z. Fadem, M.D., FACP, FASN, can be found online at <http://touchcalc.com/calculators/mergener>

Constants included in the Mergener Formula Sample

Number of words	3774
Number of questions	16
Difficulty of material	3

Determining difficulty of material--depends on target audience:

Very easy = 1; Somewhat easy = 2; Moderate = 3; Difficult = 4; Very difficult = 5

Using the above sample with the Mergener Formula—

$0.9 \times [22.3 + (0.00209 \times \text{number of words}) + (2.78 \times \text{number of questions}) + (15.5 \times \text{difficulty of material})]$

Subtotal of Sample = 68.81766×0.9

The total minutes for this activity is $61.93589 = 1$ contact hour (always round down when determining actual contact hour).

The website will automatically calculate this formula once the data is entered.

Independent Study Programs

Another method for calculating contact hours for an independent study program is to conduct a pilot study. Pilot studies identify potential problems and provide evidence of the effectiveness of a program. It is most commonly conducted with a group of representative learners from the target audience before finalizing the education activity for distribution and use.

A pilot test also documents the time required for the learner to achieve the objectives.

The number of RN pilot-testers varies depending on the purpose and design of the activity as well as the size of the target audience. The entire learning package should be completed by the pilot-testers as if they were completing it for continuing education credit, including post test (self assessments), return demonstrations or other requirements, and evaluations. Feedback from the pilot-testers enables the planning committee to improve the activity prior to making it available for CE credit.

The pilot-test provides evidence of the:

- a. Effectiveness of the design and the teaching/learning materials
- b. Time required to complete the activity.
- c. Basis for determining the number of contact hours to be awarded for successful completion of the activity.

The contact hours must reflect the documented time required by the pilot-test group to achieve the stated objectives. This may be an average of all time required or an average time of the majority of pilot-testers after discarding very short or very long time frames.

Upon completion of the pilot-test, the planners and content specialist(s) should carefully review the feedback/findings of the group to note if changes should be adopted before the activity is finalized or completed. In the application, you will be asked to describe what changes were made based on this evaluation.

Start, stop time and total contact hours should be listed on the grid, as well as total hours achieved for the event.

An Important Note about the Term "CEU"

The ANCC Commission on Accreditation does not recognize the Continuing Education Unit (CEU) term. CEU is not a generic abbreviation for continuing education but rather a specific measure: ten (10) contact hours equal one (1) CEU.

Do not use the term "CEU" in any manner.

6. Activity Evaluation

A clearly defined method, which includes learner input, must be used to evaluate the effectiveness of each educational activity.

- a. Identify the category of evaluation (i.e. learner satisfaction [REQUIRED], knowledge enhancement, skill and attitude change, change in practice, change in performance, relationship of the practice change to quality of service).

- b. Identify the method used to evaluate the activity.
- c. It is strongly recommended that at least a portion of the activities provided be evaluated at one of the higher levels of evaluation.
- d. Including supporting documentation (i.e. copy of evaluation tool) for the descriptions above.
- e. If the activity is online or archived in a way that allows learners to participate during the approval period, the evaluations and list of participants must be submitted to AzNA 30 days from the date of the initial “go live” activity and then quarterly thereafter (for the duration of the approval period.)

Note: Evaluation must include at a minimum the question “**Was this presentation free from commercial bias?**” Additional items (evaluation of each objective, evaluation of facilities...etc.) may be added to the evaluation form to meet the needs of the planners. The evaluation form can be customized for the event and learning activity.

7. Approval Statement

All communications, marketing materials, certificates and other documents that refer the activity’s ANCC and AzNA approval status **MUST CONTAIN** the official approval statement **exactly as written**:

This continuing nursing education activity was approved by the Arizona Nurses’ Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.

NOTE: The approval statement must stand alone. In other words, it must start and end on a separate line from other text.

Advertising material includes any method of announcing an educational event. This may include a brochure, flyer, bulletin board announcement, newsletter, memo, e-mail, or web site. **This material must be submitted with the application.**

If advertising is provided on a web site, include information on where and how to find it. Also, include a hard copy of the e-mail or web site advertising.

The advertising material may be the completed copy or a mock-up of the final material. If a mock-up of the advertising material was used, the final copy of the advertising material must be submitted as soon as it is printed.

To publicize the learning activity prior to CE approval, the following language is suggested to indicate that the activity has not yet been approved:

This activity has been submitted to the Arizona Nurses Association for approval to award contact hours. The Arizona Nurses Association is accredited as an approver of continuing nursing education by the American Nurses Credentialing Center’s Commission on Accreditation.

- a. Promotional material including advertisements, brochures and/or marketing materials are submitted with the application for review.

8. Documentation of Completion (“Certification of Completion”)

Participants receive written verification of their successful completion of an activity, which includes at a minimum:

- a. Name of participant
- b. Name and address of applicant
- c. The title and date of the educational activity
- d. The official approval statement
- e. The number of contact hours awarded
- f. The official disclaimer statement
- g. The AzNA approval ID number

NOTE:

- **Official approval statement must appear on a separate line exactly as follows:**
“This continuing nursing education activity was approved by the Arizona Nurses’ Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.”
- **Official disclaimer statement must appear on a separate line exactly as follows:**
“AzNA and ANCC Commission on Accreditation do not approve or endorse any commercial products displayed.”
- **Note:** AzNA assigns an approval ID number after the program has been reviewed and awarded approval status. The sample certificate should include a designated line for this number, which can be added after approval.

9. Commercial Support Guidelines

A **commercial interest** is defined by ANCC as any entity either producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients or an entity that is owned or controlled by an entity that produces, markets, re-sells or distributes health care goods or services consumed by, or used on, patients. Exceptions are made for non-profit or government organizations and non-health care related companies.

Examples of commercial support organizations commonly include pharmaceutical companies and medical device organizations.

ANCC does not consider providers of clinical service directly to patients to be commercial interests. For the purposes of eligibility, ANCC does NOT consider the following types of organizations to be commercial interest organizations:

- A government entity

- A non-profit (501(c)) organization
- A provider of clinical services directly to patients, including but not limited to hospitals, health care agencies, and independent health care practitioners;
- An entity the sole purpose of which is to improve or support the delivery of health care to patients, including but not limited to providers or developers of electronic health information systems, database systems, and quality improvement systems;
- A non-healthcare related entity whose primary mission is not producing, marketing, or selling or distributing health care goods or services consumed by or used on patients;
- Liability insurance providers
- Health insurance providers
- Group medical practices
- Acute care hospitals (for-profit and not-for-profit)
- Rehabilitation centers (for-profit and not-for-profit)
- Nursing homes (for-profit and not-for-profit)
- Blood banks
- Diagnostic laboratories
- Universities with nursing development and continuing nursing education programs
- Specialty Nursing Organizations
- Constituent Member Associations
- Federal Nursing Services
- National nurses organizations based outside the United States
- a single-focused organization devoted to offering continuing education

Commercial Support is financial, or in-kind, contributions given by a commercial interest, which is used to pay all or part of the costs of a CNE activity. An in-kind contribution is a non-cash contribution which can be given a cash value (such as donation of paper, use of equipment or a person's services, donation of a building to use for an event).

A sponsor is identified as an organization that does not meet the definition of commercial interest. Sponsorship is financial, or in-kind, contributions given by an entity that is not a commercial interest, which is used to pay all or part of the costs of a CNE activity.

Education must be kept separate from promotional activities. Commercial support, exhibits, or the presentation of research conducted by a commercial company shall not influence the design and scientific objectivity of any educational activity.

Commercially-supplied funds for an educational activity that are given in the form of an educational grant or in-kind assistance shall be acknowledged in the brochures and/or printed material for the continued education activity.

A copy of the commercial support agreement for each entity must be provided and it must outline how content integrity is maintained.

Read “Standards for Disclosure and Commercial Support” (found later in these guidelines) for a complete statement of the commercial support guidelines.

Any sponsorship or commercial support related to the educational activity must be given with the full knowledge and approval of the applicant.

The participant must be informed of

- i. The type of commercial support or sponsorship and how content integrity is maintained for educational activities that receive sponsorship or commercial support, if any, including (but not limited to) the policy and associated procedures for resolving conflict
- ii. What/how precautions are taken to prevent bias in the educational content

A copy of the written agreement used in the presence of sponsorship or commercial support as well as the amounts paid for commercial support, sponsorship, and exhibits/vendors must be included in the application and a copy of the written agreement must be sent to AzNA and kept on file by the applicant for the term of this application.

NOTE: The AzNA website contains sample commercial support agreements, exhibitor agreements, etc. that are available to all applicants. Go to https://aznurse.org/cont_education/index.html and scroll to “Download Forms.”

10. Conflict of Interest (COI) Guidelines

A **commercial interest** is defined by ANCC as any entity either producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients or an entity that is owned or controlled by an entity that produces, markets, re-sells or distributes health care goods or services consumed by, or used on, patients. Exceptions are made for non-profit or government organizations and non-health care related companies. **Commercial Support** is financial, or in-kind, contributions given by a commercial interest, which is used to pay all or part of the costs of a CNE activity. **A sponsor** is identified as an organization that does not meet the definition of commercial interest. Sponsorship is financial, or in-kind, contributions given by an entity that is not a commercial interest, which is used to pay all or part of the costs of a CNE activity.

Conflict of interest disclosure statements are required from all planners and presenters to identify the presence or absence of any potentially biasing relationship of financial, professional, or personal nature on the part of those who have an impact on the content of an educational activity.

Planners and presenters must disclose the presence or absence of conflict of interest relative to each activity.

All potential conflicts must be **resolved as a written COI resolution prior to the** planning, implementation, or evaluation for the continuing nursing education activity. Refer to the conflict of interest discussion in “Standards for Disclosure and Commercial Support”.

11. Disclosures Provided to Activity Participants

Participants must be provided the following information regarding each and every activity in advance of, or at the time of, the event

Disclosures can be provided on handouts, a sign at the registration table, the first slide of a presentation, etc. Once a method is selected for the disclosure, documentation for that particular method of disclosure must be provided in the application.

ITEM	ACTION and SAMPLE LANGUAGE
Target Audience	<p>NOTE: You are encouraged to use the heading for each disclosure as well as the language (or similar language) provided.</p> <p><i>Registered Nurses, Advance Practice Nurses, LPNs/LVNs, RNs in specialty areas (list specialty), other health care professionals</i></p> <p>List whoever is appropriate—but RNs need to be listed.</p>
Purpose/Goal Of This Activity	<i>(should be same statement as on application)</i>
Learning Objectives	<p><i>The learning objectives include the following: (list)</i></p> <p>1.</p>
Criteria for Successful Completion	<i>(list what was placed on application in section 4d)</i>
Conflicts of Interest and Relevant Financial Relationships	<p><i>The following planning committee members state they have _____ (insert the conflict, type of relevant financial relationship, and state how each will be resolved). Example for resolution:</i></p> <p><i>“Ann Jones, RN has stated she has stock in XYZ Company. This presenter is aware of the conflict of interest policy and has agreed to present the information fairly and without bias.”</i></p> <p>OR</p> <p><i>The planning committee members have no conflicts of interests or relevant financial relationships to declare relevant to this activity.</i></p> <p><u>AND</u></p> <p><i>The following content experts/faculty/presenters/authors state they have _____ (insert the conflict, type of relevant financial relationship, and state how each will be resolved)</i></p>

	<p>OR</p> <p><i>The content experts/faculty/presenters/authors have no conflicts of interests or relevant financial relationships to declare relevant to this activity.</i></p>
Commercial Support	<p><i>There is no commercial support being received for this event.</i></p> <p>OR</p> <p><i>The following entities are providing in-kind support for this activity: (Name of entity), type of in-kind support, and amount of in-kind support.</i></p> <p><i>The following entities are providing financial support for this activity. (Name of entity), type of financial support, and amount of financial support.</i></p> <p><i>The following entities are exhibitors/vendors for this activity: (Name of exhibitors/vendors)</i></p>
Non-endorsement of products	<p><i>Accreditation refers to recognition of continuing nursing education only and does not imply AzNA or ANCC Commission on Accreditation approval or endorsement of any commercial product.</i></p>
Enduring materials if applicable	<p><i>Origination Date:</i></p> <p><i>Review/Revision Date:</i></p> <p><i>Expiration Date:</i></p>
Contact Hours	<p><u> </u> <i>contact hours</i></p>
Accreditation Statements	<p><i>“This continuing nursing education activity was approved by the Arizona Nurses’ Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.”</i></p> <p>OR</p> <p>To publicize the learning activity <i>prior</i> to CE approval, the following language is given to indicate the activity has not yet been approved:</p> <p><i>“This activity has been submitted to the Arizona Nurses Association for approval to award contact hours. The Arizona Nurses Association is accredited as an approver of continuing nursing education by the American Nurses Credentialing Center’s Commission on Accreditation.”</i></p>

12. Recordkeeping: For each offered educational, all correspondence, a complete copy of the activity (including corrections and all attachments) is kept in a secure and confidential manner for six years:

- a. Planning:
 - i. Description of the target audience
 - ii. The method and findings of the needs assessment

- iii. Names, titles and expertise of the activity planners and content experts/faculty/presenters/authors
 - iv. Conflict of interest disclosure statements for activity planners and experts/faculty/presenters/authors
 - v. Resolution of conflict of interest and relevant financial relationships (if applicable)
 - vi. Learning purpose, objectives, and content
 - vii. Number of contact hours awarded (including method of calculation)
 - viii. Instructional strategies, delivery methods, learner feedback mechanisms and resources to be used
 - ix. Methods or process used to verify participation
 - x. Evidence of ALL required disclosures
 - xi. Marketing and promotional materials
 - xii. Co-provider agreement with signature and date (if applicable)
 - xiii. Means of ensuring content integrity with commercial support, if any; and
 - xiv. Commercial support agreement with signature and date (if applicable)
- b. Implementation
- i. Title, location, and date of the educational activity
 - ii. Template of all evaluation tools used, including summative evaluation
 - iii. Participant names and unique identifier information
 - iv. Sample certificate of completion

Note: Applicant is able to determine within its own setting how confidential records are maintained and handled and which personnel have access to the records. Mechanisms should be in place for systematic, easy retrieval of information by authorized individuals.

All documentation will be maintained in a retrievable file, which is accessible only to authorized personnel for six years.

13. **Co-Providershhip:** When educational activities are co-provided, the AzNA/ANCC approved activity retains the following responsibilities:
- a. Determination of the educational objectives and content
 - b. Selection of the content specialist planners and activity presenters
 - c. The awarding of contact hours, as appropriate, to the individual education activity
 - d. Recordkeeping procedures
 - e. Evaluation methods and categories; and
 - f. Management of any sponsorship or commercial support

A written co-provider agreement is required, documenting how the AzNA ANCC approved applicant will maintain the responsibilities outlined in items “a” and “b” above.

**SAMPLE TEMPLATE: COMPLETE HIGHLIGHTED AREAS
Certificate of Completion**

[Insert Name and Address of Organization]
CERTIFICATE OF COMPLETION

This certificate is presented to

_____ *[Name of Participant]* _____

for successful completion of

[Insert Name of Individual Activity]
On *[Insert Date of Activity]*

[Insert Number] Contact Hours

ID # _____

This continuing nursing education activity was approved by the Arizona Nurses' Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

AzNA and the ANCC Commission on Accreditation do not approve or endorse any commercial products displayed.

Note: The accreditation statement and the disclaimer statement must stand alone and be on a separate line from any other statement including number of contact hours awarded, other accreditation/approvals or reference to the ANCC.

APPENDIX I: COPROVIDER GUIDELINES [\(top of document\)](#)

Definition of Co-Providing	The process for planning, developing and implementing an educational activity by two or more organizations or agencies." (ANCC Commission on Accreditation, 2001).
Who can Co-Provide?	<ul style="list-style-type: none"> • Two or more Approved Provider Units; • One Approved Provider Unit and one or more other organizations or agencies; or • Two or more organizations or agencies who are not Approved Provider Units.
What are the responsibilities of a Co-Provider?	<ul style="list-style-type: none"> • Determination of objectives and content; • Selection of presenter/content specialist; • Awarding of contact hours; • Record keeping; • Evaluation • Management of sponsorship/commercial support
What is the difference between Approval and Co-Providing?	Co-providing continuing education is not to be confused with approval of continuing education for other agencies or within your own organization. If the Approved Provider Unit Nurse Planner was not actively involved in the planning of the event, you may not provide or co-provide it.
Advertising with Co-Providers	Advertising should include the names of all Approved Providers and Co-Providers. For example, "ABC Hospital and Chapter X of the Nurses Association..."
Financial Support	Financial support may be provided for an event such as covering a speaker's honorarium, paying for break or lunch, etc. Financial supporters are not part of the assessment, planning, implementation, and evaluation process for the activity and are therefore not co-providers. Commercial support guidelines should be followed in these situations.
Fees for Co-Providing	There is no ANCC criteria that prevent an organization from charging a fee for the time, expertise and resources to participate in planning an event, issuing certificates, keeping records, etc. However, be very careful that it is clear to all parties that the fee covers the organization's involvement, not "approval" of an activity.
Co-Provider vs. Co-Sponsor	<p>The ANCC criteria does not utilize the terms "sponsor" or "co-sponsor." Co-providing is the term used when two or more groups work together to assess, plan, implement and evaluate continuing education activities.</p> <p>Sponsors are typically either:</p> <ol style="list-style-type: none"> 1. Organizations providing money for an event. (Follow the guidelines for commercial support.) OR 2. Organizations offering philosophical support for a cause (such as sponsoring a piece of legislation or sponsoring a consumer health organization). <p>These are separate from the continuing nursing education co-provider process and do not require a co-provider agreement.</p>

Frequently Asked Questions about Co-Providing

There are several instances when an Approved Provider Unit is asked to co-provide an activity and it is not appropriate to do so. For example, when an employee is also involved in an outside organization and wants the Approved Provider Unit to give the contact hours or when an outside organization asks for contact hours for an event they planned, etc.

The Approved Provider Unit must ask certain questions to determine if what they are being asked to do is truly co-providership or an approval process request. (Remember, Approved Provider Units provide continuing education activities. They do not approve activities.)

Questions to be considered are:

1. Who is included in the provider unit? Is the group asking for co-providership part of the provider unit or outside of the provider unit? (Refer to the organization's description of their Provider Unit on their provider application, Criterion I.1.a..)
2. Has a designated Nurse Planner of the Approved Provider Unit been actively involved in planning since the beginning?
3. How is this event related to the organization?
4. Is it something in which the organization wants to be involved?
5. Is the event open to the organization's staff?

The answers to these questions will help determine if a co-providership is appropriate.

Role of the Nurse Planner

As an Approved Provider Unit, the designated Nurse Planners must be involved in planning each educational event. If an employee of the Approved Provider Unit is working with a group outside of the work setting, the employee must involve a designated Nurse Planner to determine if a co-provider relationship is appropriate. The Nurse Planner will develop the co-provider agreement with the group, facilitate the planning process and proceed with the development of the co-provided event. The Provider Unit's name must be included as one of the event providers on the advertising material, not just in the provider statement. If the co-provider relationship is not desired or appropriate, the Nurse Planner may refer the employee and group to the Arizona Nurse Association for approval as an individual activity.

Co-Provider Agreement

All co-provided activities should have a written agreement between the Approved Provider(s) and Co-provider. The agreement should be signed when the relationship is established and maintained with the activity files for six years. (Please see Sample Co-Provider Agreement on next page).

Sample Co-Provider Agreement

Name of Approved Provider Unit	
Name of Co-Provider:	
Title of Activity:	
Date of Activity:	
Location of Activity:	

I. The Approved Provider Unit, _____, agrees to the following responsibilities:

- a. Determination of the educational objectives and content
- b. Selection of the content specialist planners and activity presenters
- c. The awarding of contact hours, as appropriate, to the individual education activity
- d. Recordkeeping procedures
- e. Evaluation methods and categories; and
- f. Management of any sponsorship or commercial support

II. The Co-provider, _____, agrees to the following responsibilities:

i)

III. Advertising for this Event will include both the names of the Approved Provider Unit and the Co-provider.

Signature of Approved Provider
Nurse Planner

Signature of Co-provider

Print Name of Approved Provider
Nurse Planner

Print Name of Co-provider

Appendix II: Standards for Disclosure and Commercial Support
[\(top of document\)](#)

These Standards have been adapted from the Accreditation Council for Continuing Medical Education (ACCME), which articulates its policies for disclosure and commercial support in:

- (1) The Standards For Commercial Support: Standards to Ensure Independence in CME Activities, as adopted by ACCME in September 2004; and
 - (2) ACCME policies applicable to commercial support and disclosure.
-

STANDARD 1. Independence

- 1.1 A CNE applicant must ensure that the following decisions were made free of control of a commercial interest. ANCC defines a “commercial interest” as any proprietary entity producing health care goods or services with the exemption of non-profit or government organizations and non-health care related companies.
 - (a) identification of CNE needs
 - (b) determination of educational objectives
 - (c) selection and presentation of content
 - (d) selection of all persons and organizations that will be in a position to control the content of the CNE
 - (e) selection of educational methods
 - (f) evaluation of the activity
- 1.2 A commercial interest cannot take the role of a non-accredited partner in a joint sponsorship relationship.

STANDARD 2. Resolution of Personal Conflicts of Interest

- 2.1 The applicant must be able to show that everyone who is in a position to control the content of an education activity has disclosed all relevant financial relationships with any commercial interest to the applicant. ANCC defines “relevant financial relationships” as financial relationships in any amount occurring with the past 12 months that create a conflict of interest.
- 2.2 An individual who refuses to disclose financial relationships will be disqualified from being a planning committee member, a teacher, or an author or CNE and cannot have control of, or responsibility for, the development, management, presentation, or evaluation of CNE activity.
- 2.3 The applicant must have implemented a mechanism to identify and resolve all conflicts of interest prior to the education activity being delivered to learners.

STANDARD 3. Appropriate Use of Commercial Support

- 3.1** The applicant must make all decisions regarding the disposition and disbursement of commercial support.
- 3.2** A applicant cannot be required by a commercial interest to accept advice or services concerning teachers, authors, or other education matters, including content from a commercial interest as conditions of contributing funds or services.
- 3.3** All commercial support associated with CNE activity must be given with the full knowledge and approval of the applicant.

Written agreement documenting terms of support

- 3.4** The terms, conditions, and purposes of the commercial support must be documented in a written agreement with the commercial supporter that includes the applicant and its educational partner(s). The agreement must include the applicant, even if the support is given directly to the provider's educational partner or a joint sponsor.
- 3.5** The written agreement must specify the commercial interest that is the source of commercial support.
- 3.6** Both the commercial supporter and the applicant must sign the written agreement between the commercial supporter and the applicant.

Expenditures for an individual providing CNE

- 3.7** The applicant must follow the written policies and procedures governing honoraria and reimbursement of out-of-pocket expenses for planners, teachers, and authors as stated in these standards.
- 3.8** The applicant, the joint sponsor, or designated educational partner must pay directly any teacher or author honoraria or reimbursement of out-of-pocket expenses in compliances with the written policies and procedures.
- 3.9** No other payment shall be given to the director of the activity, planning committee members, teachers or authors, joint sponsor, or any others involved with the supported activity.
- 3.10** If teachers or authors are listed on the agenda as facilitating or conducting a presentation or session, but participate in the remainder of an educational event as a learner, their expenses can be reimbursed and honoraria can be paid for their teacher or author role only.

Expenditures for learners

- 3.11** Social events or meals at CNE activities cannot compete with or take precedence over the educational events.
- 3.12** The provider may not use commercial support to pay for travel, lodging, honoraria, or personal expenses for non-teacher or non-author participants of a CNE activity. The

provider may use commercial support to pay for travel, lodging, honoraria, or personal expenses for bona fide employees and volunteers of the provider, joint sponsor, or educational partner.

STANDARD 4. Appropriate Management of Associated Commercial Promotion

- 4.1** Arrangements for commercial exhibits or advertisements cannot influence planning or interfere with the presentation, nor can they be a condition of the provision of commercial support for CNE activities.
- 4.2** Product-promotion material or product specific advertisement of any type is prohibited in or during CNE activities. The juxtaposition of editorial and advertising material on the same products or subjects must be avoided. Live (staffed exhibits, presentations) or enduring (printed or electronic advertisements) promotional activities must be kept separate from CNE.
- For **print**, advertisements and promotional materials will not be interleaved within pages of CNE content. Advertisements and promotional materials may face the first or last pages of printed CNE content as long as these materials are not related to the CNE content they face **and** are not paid for by the commercial supporters of the CNE activity.
 - For **computer-based**, advertisements and promotional materials will not be visible on the screen at the same time as the CNE content and not interleaved between computer 'windows' or screens of the CNE content.
 - For **audio and video recording**, advertisements and promotional materials will not be included within the CNE. There will be no 'commercial breaks'.
 - For **live, face-to-face** CNE, advertisements and promotional materials cannot be displayed or distributed in the educational space immediately before, during, or after a CNE activity. Applicants cannot allow representatives of Commercial Interests to engage in sales or promotional activities while in the space or place of the CNE activity.
- 4.3** Educational materials that are part of a CNE activity, such as slides, abstracts, and handouts, cannot contain any advertising, trade name or a product-group message.
- 4.4** Print or electronic information distributed about the non-CNE elements of a CNE activity that are not directly related to the transfer of education to the learner, such as schedules and content descriptions, may include product promotion material or product-specific advertisement.
- 4.5** An applicant cannot use a commercial interest as the agent providing a CNE activity to learners, e.g., distribution of self-study CNE activities or arranging for electronic access to CNE activities.

STANDARD 5. Content and Format without Commercial Bias

- 5.1** The content or format of a CNE activity or its related materials must promote improvements or quality in health care and not a specific proprietary business interest of commercial interest.

- 5.2** Presentations must give a balanced view of therapeutic options. Use of generic names will contribute to this impartiality. If the CNE educational material or content includes trade names, where available trade names from several companies should be used, not just trade names from a single company.

STANDARD 6. Disclosures Relevant to Potential Commercial Bias

Relevant financial relationships with those in control over CNE content

- 6.1** A individual must disclose to learners any relevant financial relationship(s), to include the following information:
- The name of the individual
 - The name of the commercial interest(s)
 - The nature of the relationship the person has with each commercial interest
- 6.2** For an individual with no relevant financial relationship(s), the learners must be informed that no relevant financial relationship(s) exist.

Commercial support for the CNE activity

- 6.3** The source of all support from commercial interests must be disclosed to learners. When commercial support is 'in-kind', the nature of the support must be disclosed to learners.
- 6.4** 'Disclosure' must never include the use of a trade name or a product-group message.

Timing of disclosure

- 6.5** An applicant must disclose the above information to learners prior to the beginning of an educational activity.

The following policies and definitions, adapted from updates added by ACCME between November 2004 and March 2005, supplement Standards 1-6 above.

Relevant to Standard 2 (Identifying and Resolving Conflicts of Interest)

Financial Relationships: Financial relationships are those relationships in which the individual benefits by receiving a salary, royalty, intellectual property rights, consulting fee, honoraria, ownership interest (e.g. stocks, stock options, or other ownership interest, excluding diversified mutual funds), or other financial benefit. Financial benefits are usually associated with roles such as employment, management position, independent contractor (including contracted research), consulting, speaking and teaching, membership on advisory committees or review panels, board membership, and other activities from which remuneration is received, or expected. ANCC considers relationships of the person involved in the CNE activity to include financial relationships of a spouse or partner.

With respect to personal financial relationships, 'contracted research' includes researching funding where the institution gets the grant and manages the funds and the person is the principal or named investigator on the grant.

Conflict of Interest: Circumstances create a conflict of interest when an individual has an opportunity to affect CNE content about products or services of a commercial support interest with which he/she has a financial relationship.

ANCC considers *financial relationships* to create actual conflicts of interests in CNE when individuals have both financial relationship with a commercial interest and the opportunity to affect the content of the CNE about the products or services of the commercial interest. ANCC considers “content of the CNE about the products or services of that commercial interest” to include content about specific agents/devices, but not necessarily about the class of agents/devices, and not necessarily content about the whole disease class in which those agents/devices are used.

With respect to *financial relationships* with commercial interests, when a person divests himself of herself of a relationship, it is immediately not relevant to conflicts of interests but must be disclosed to the learner for 12 months.

Relevant to Standard 3 (Appropriate Use of Commercial Support)

Definition of Commercial Support: Commercial Support is financial, or in-kind, contributions given by a commercial interest, which is used to pay all or part of the costs of a CNE activity.

ANCC does not consider providers of clinical service directly to patients to be commercial interests. For the purposes of eligibility, ANCC considers the following types of organizations eligible for accreditation and free to control the content of the CNE (Standard 1):

- Liability insurance providers
- Health insurance providers
- Group medical practices
- For-profit hospitals
- For profit rehabilitation centers
- For profit nursing homes

Element 3.12 of ANCC’s standards for commercial support applies only to nurses whose official residence is in the United States.

Relevant to Standard 4 (Appropriate Management of Commercial Promotion)

Commercial exhibits and advertisements are promotional activities and not continuing nursing education. Therefore, monies paid by commercial interests to providers for these promotional activities are not considered to be ‘commercial support’. However, applicants are expected to fulfill the requirements of Standard 4 and use sound fiscal and business practices with respect to promotional activities.

Relevant to Standard 6 (Disclosure to Learners)

Disclosure of information about provider and faculty relationships may be disclosed verbally to participants at a CNE activity. When such information is disclosed verbally at a CNE activity, applicants must be able to supply ANCC with written verification that appropriate verbal disclosure occurred at the activity. With respect to written verification:

1. A representative of the provider who was in attendance at the time of the verbal disclosure must attest, in writing:

- a. That verbal disclosure did occur; and
 - b. Itemize the content of the disclosed information (Standard 6.1) or that there was nothing to disclose (Standard 6.2).
2. The documentation that verifies that adequate verbal disclosure did occur must be completed within one month of the activity.

The applicant's acknowledgement of commercial support as required by Standard 6.3 and 6.4 may state the name, mission, and areas of clinical involvement of the company or institution and may include corporate logos and slogans, if they are not product-promotional in nature.

Sample Commercial Support Agreement

SAMPLE COMMERCIAL SUPPORT AGREEMENT

Date:

Parties Involved in Agreement:

Provider name and representative's name:

Coprovider(s) name (if applicable):

Entity providing commercial support's name:

The CE activity entitled _____ will be presented by (Provider name) and (Coprovider's name(s) if applicable) on _____ at _____.

(Commercial Support Entity's name) will provide (list). The (Entity) will be recognized as providing commercial support in the advertising.

The commercial support and/or entity will in no way influence or bias the content of the CE presentation. According to commercial support standards as listed in Appendix B of the 2009 Application Manual – Accreditation Program, ANCC, the following must be met:

STANDARD 3: APPROPRIATE USE OF COMMERCIAL SUPPORT

3.1 The provider must make all decisions regarding the disposition and disbursement of commercial support.

ANCC defines “commercial support” as financial, or in-kind, contributions given by a commercial interest by a commercial interest, which is used to pay all or part of the costs of a continuing nursing education activity.

ANCC does not consider providers of clinical service directly to patients to be commercial interests. For the purposes of eligibility, ANCC considers the following types of organizations eligible for accreditation [approval] and free to control the content of continuing nursing education (Standard 1):

- Liability insurance providers
- Health insurance providers
- Group medical practices
- Acute care hospitals (for-profit and not-for-profit)
- For-profit rehabilitation centers
- For-profit nursing homes
- Universities with nursing development and continuing nursing education programs
- Specialty Nursing Organizations
- Constituent Member Associations
- Federal Nursing Services
- National nurses organizations based outside the United States
- A single-focused organization devoted¹ to offering continuing nursing education

¹ The single-focused organization exists for the single purpose of providing education.

- 3.2 A provider cannot be required by an entity with a commercial interest to accept advice or services concerning teachers, authors, or other education matters, including content, from the entity as conditions of contributing funds or services.
- 3.3 All commercial support associated with a continuing nursing education activity must be given with the full knowledge and approval of the provider.

Written Agreement Documenting Terms of Support

- 3.4 The terms, conditions, and purposes of the commercial support must be documented in a written agreement with the entity that includes the provider and its educational partner(s). The agreement must include the provider, even if the support is given directly to the provider's educational partner or a co-provider.
- 3.5 The written agreement must specify the entity that is the source of commercial support.
- 3.6 Both the entity and the provider must sign the written agreement regarding the support to be provided/accepted.

Expenditures for an individual providing continuing nursing education

- 3.7 The provider must have written policies and procedures governing honoraria and reimbursement of out-of-pocket expenses for planners, teachers, and authors.
- 3.8 The provider, the co-provider, or designated educational partner must directly pay any teacher or author honoraria or reimbursement of out-of-pocket expenses in compliance with the provider's written policies and procedures.
- 3.9 No other payment shall be given to the director of the activity, planning committee members, teachers, or authors, co-provider, or any others involved with the supported activity.
- 3.10 If teachers or authors are listed on the agenda as facilitating or conducting a presentation or session, but participate in the remainder of an educational event as a learner, their expenses can be reimbursed and honoraria can be paid for their teacher or author role only.

Expenditures for Learners

- 3.11 Social events or meals at continuing nursing education activities cannot compete with, or take precedence over, the educational events.
- 3.12 The provider may not use commercial support to pay for travel, lodging, honoraria, or personal expenses for non-teacher or non-author participants of a continuing nursing education activity. The provider may use commercial support to pay for travel, lodging, honoraria, or personal expenses for bona fide employees and volunteers of the provider, co-provider or educational partner. This element applies only to nurses whose official residence is in the United States.

Accountability

- 3.13 The provider must be able to produce accurate documentation detailing the receipt and expenditure of commercial support.

STANDARD 4. APPROPRIATE MANAGEMENT OF ASSOCIATED COMMERCIAL PROMOTION

Commercial exhibits and advertisements are promotional activities and not continuing nursing education. Therefore, monies paid by commercial interests to providers for these promotional activities are not considered "commercial support." However, accredited [approved] providers are expected to fulfill the requirements of Standard 4, and to use sound fiscal and business practices with respect to promotional activities.

- 4.1 Arrangements for commercial exhibits or advertisements cannot influence planning or interfere with the presentation, nor can they be a condition of the provision of commercial support for continuing education activities.

- 4.2 Product-promotion material or product-specific advertisement of any type is prohibited in or during continuing nursing education activities. The juxtaposition of editorial and advertising material on the same products on subjects must be avoided. Live (staffed exhibits, presentations) or enduring (printed or electronic advertisements) promotional activities must be kept separate from continuing nursing education.
- **Print**, advertisements and promotional materials shall not be interleaved within the pages of the continuing nursing education content. Advertisements and promotional materials may face the first or last pages of printed CNE content as long as these materials are not related to the continuing nursing education content they face and are not paid for by the entities with commercial interests in the continuing nursing education activity.
 - **Computer-based**, advertisements and promotional materials shall not be visible on the screen at the same time as the continuing nursing education content and shall not be interleaved between computer “windows” or screens of the continuing nursing education content.
 - **Audio and video recording**, advertisements and promotional materials shall not be included within the continuing nursing education. There will be no “commercial breaks.”
 - **Live face-to-face continuing nursing education**, advertisements and promotional materials shall not be displayed or distributed in the educational space immediately before, during, or after a continuing nursing education activity. Providers shall not allow representatives of an entity with commercial interests to engage in sales or promotional activities while in the space or place of the continuing nursing education activity.
- 4.3 Educational materials that are part of a continuing nursing education activity, such as slides, abstracts, and handouts, shall not contain any advertising, trade name, or a product-group message.
- 4.4 Print or electronic information distributed about the non-continuing nursing education elements of a continuing nursing education activity that are not directly related to the transfer of education to the learner, such as schedules and content descriptions, may include product promotion material or product-specific advertisement.
- 4.5 A provider shall not use an entity with a commercial interest as the agent providing a continuing nursing education activity to learners, e.g., distribution of self-study continuing nursing education activities or arranging for electronic access to continuing nursing education activities.

STANDARD 5. CONTENT AND FORMAT WITHOUT COMMERCIAL BIAS

- 5.1 The content or format of a continuing nursing education activity or its related materials must promote improvements or quality in health care and not a specific proprietary business interest of an entity with a commercial interest.
- 5.2 Presentations must give a balanced view of therapeutic options. Use of generic names will contribute to this impartiality. If the continuing nursing education educational material or content includes trade names, when available, trade names from several companies should be used, not just trade names from a single company.

The signatures below by representatives from each organization listed above indicate agreement with the above statements.

Provider representative _____ Date _____

Coprovider (if applicable) representative _____ Date

Commercial Support Entity _____ Date

NOTE: The commercial support agreement should include all pages of the “Standards for Commercial Support and Disclosure” so that the Commercial Supporter is aware of all ANCC/AzNA policies.