American Journal of Pharmaceutical Education **2006; 70 (2) Article 40.**

COMMUNITY PHARMACY

Engaging Students in Wellness and Disease Prevention Services

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Pharmacy education has traditionally focused on medications and treatment of disease. However, as an accessible health care professional, pharmacists can influence healthy behaviors in their patients. Encouraging/promoting healthier lifestyles in the United States is essential because the leading causes of mortality are tobacco use, poor nutrition, and inactivity. In order to prepare pharmacists for this role, student pharmacists must be taught how to implement and deliver wellness and prevention services. Community advanced pharmacy practice experiences (APPEs) occur at an ideal point in the curriculum to engage students in these activities. This article provides preceptors with guidance and tools for restructuring the community APPE at their sites to incorporate wellness and disease prevention activities.

Keywords: wellness, disease prevention, health promotion, advanced pharmacy practice experiences, community pharmacy

INTRODUCTION

Much of the morbidity and mortality associated with chronic disease in the United States could be prevented though lifestyle and behavioral changes. Although the leading causes of death in the United States are heart disease and cancer, the actual leading causes of mortality are tobacco use, poor nutrition, and inactivity.[1] Traditionally, pharmacy education has focused on medications and the treatment of disease. However, as accessible healthcare professionals, pharmacists are in an ideal position to make an impact on patients' behaviors. Furthermore, pharmacists have been identified as key healthcare professionals to help the nation meet the goals of *Healthy People 2010*.[2-4] *Healthy People 2010* is a document reflecting the nation's health goals for reducing significant preventable threats to public health. There are 2 overarching goals, which are to increase the quality and years of life of Americans and to eliminate health disparities.[2] In order to accomplish these goals, as a profession, pharmacists will need to be prepared to deliver wellness and disease prevention services.

The Center for Advancement of Pharmaceutical Education (CAPE) recently revised the educational outcomes for colleges and schools of pharmacy.[5] The advisory panel identified public health as a major area for improvement and expansion in pharmacy education, including teaching students strategies for promoting health improvement, wellness, and disease prevention to patients, communities, and at-risk populations, in collaboration with other health care providers. Community advanced pharmacy practice experiences (APPE's) are ideal areas of the curriculum for offering these learning experiences for students. Therefore, preceptors may need to restructure APPE learning activities to provide opportunities for students to gain knowledge about wellness and disease prevention. This article will provide preceptors with ideas for incorporating wellness and disease prevention into student learning experiences.

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ESTABLISHING A WELLNESS AND DISEASE PREVENTION FOUNDATION

Community practitioners should prepare for teaching wellness and disease prevention by building a basic foundation. The basic foundation for preceptors recommended by these authors includes the following:

(1) Creating a model of wellness and disease prevention in the advanced practice setting. This means being a role model for students by having at least one active service relating to wellness or disease prevention in the practice.

(2) Providing students with pertinent literature about wellness, disease prevention, and health promotion and addressing these issues either during daily activities or during discussion sessions.[2-4,6-9]

From the foundation, preceptors can build on student's knowledge using several different approaches in their practice. These include students actively participating in the practice's wellness and disease prevention

activities, creating new wellness and disease prevention activities for the practice, creating tools and educational materials, discussing pertinent wellness and disease prevention literature, writing newsletters or articles about wellness and disease prevention, marketing wellness and disease prevention services, and assessing outcomes of the programs and services (Figure 1). Ideally, students should be involved in a range of activities and discussions about wellness and disease prevention throughout an advanced practice experience. Activities do not have to be complicated; however, depending on the activity, it may take more preceptor time, either through direct supervision or reviewing and revising the materials students create. Preceptors will need to consider their ability to supervise and provide guidance and teaching as they design activities and learning experiences around wellness and disease prevention. The following sections will focus on how to incorporate these approaches using several wellness and disease prevention strategies.

STUDENT ACTIVITIES

Health Observances

The Office of Disease Prevention and Health Promotion publishes a comprehensive calendar of national health observances, eg, October is National Breast Cancer Awareness Month.[6] Most of the health observances have websites with additional information and materials. These materials are excellent resources for pharmacists and students developing wellness and disease prevention activities[7] and can be used as a framework for many of the student activities during an APPE. Students should choose a health observance that interests them and that will occur during their experience. The student should develop an activity that can be accomplished during the rotation and be incorporated into the practice site. For example, during National Osteoporosis Awareness and Prevention Month, when dispensing a prescription, the student could counsel every female patient about the appropriate amount of dietary calcium and/or supplemental calcium. This would engage the student in health promotion activities directly with the patient.

Another activity based on the national health observances includes the development of handouts and patient education materials to be made available at the pharmacy. For example, during National Stroke Awareness Month in May, students could develop handouts and patient education materials on the risk factors and signs and symptoms of stroke, and measures patients can take to prevent strokes. Students could also evaluate patient education materials that could be used by the practice site. Evaluation should

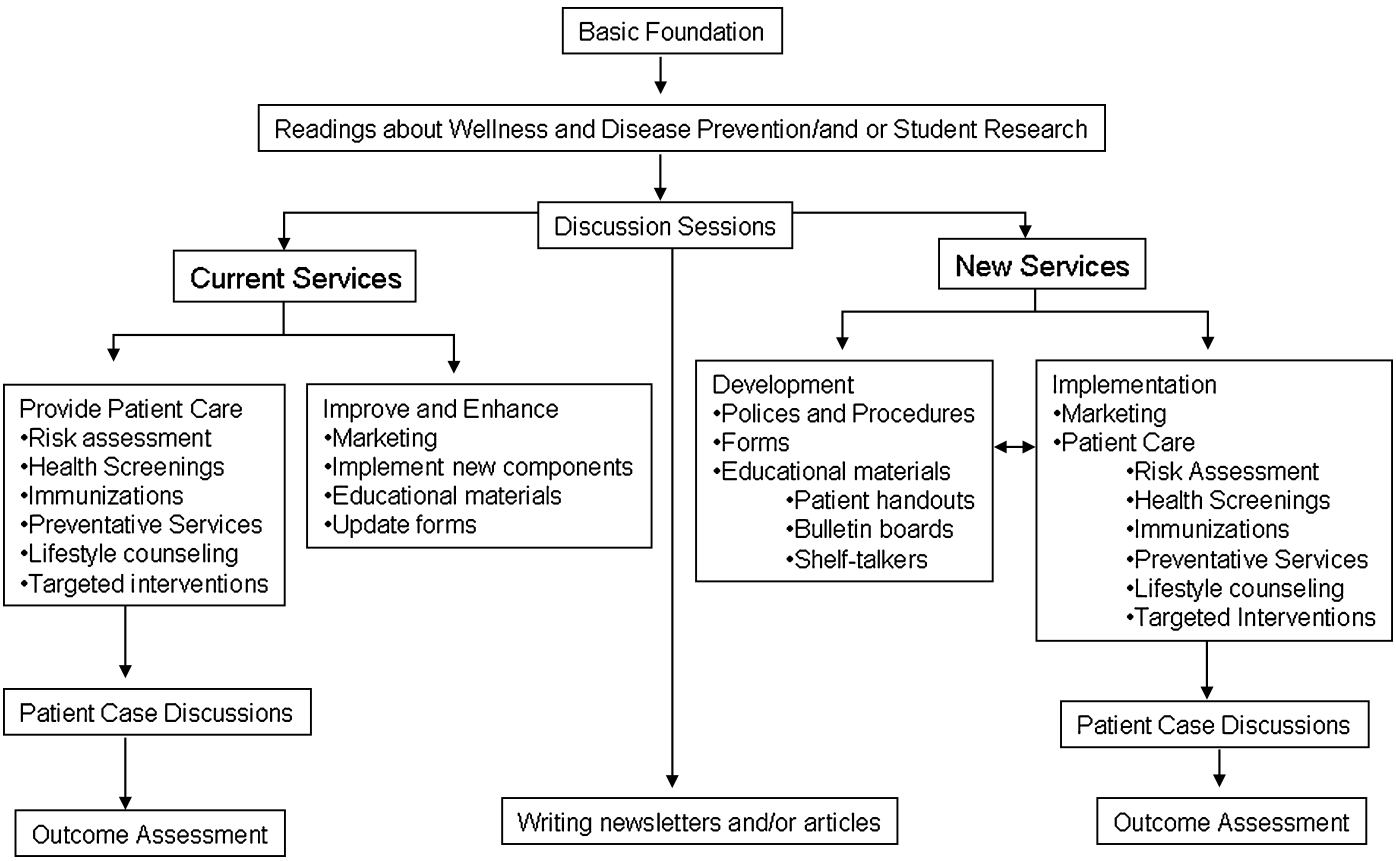

Figure 1. Algorthim for engaging students in wellness and prevention.

include assessing the handout's literacy level. If the practice site has a population of patients whose primary language is not English, students should research the available educational materials in other languages.

If the pharmacy has space, students could develop a bulletin board or display with educational messages and handouts for a national health observance. The pharmacy could use these materials each year. If the pharmacy does not have space for a bulletin board or display, students could be involved in developing shelf-talkers or posters to convey a message about a national health observance. For example, students could develop a message around National SAFE KIDS Week that could be put on the shelves displaying children's products, toys, etc.

Students could also be involved in developing a presentation about a national health observance. The presentation could be given in a meeting room or similar space at the pharmacy or at a community center, church, civic building, or library for various groups or associations. If the pharmacy has a newsletter or if other community publications exist, a student activity could include developing an article about the national health observance.

National health observances can also be used as a platform for more advanced pharmacy activities such as risk assessments, screenings, lifestyle counseling, immunizations, and targeted interventions. These activities will be discussed later in the article.

Students do not have to focus on a national health observance. Any of these activities could also center on other health-related issues including seasonal concerns (eg, sunscreen protection, allergies, bug bites, influenza) or disease prevention topics (eg, diabetes mellitus, obesity, depression).

Risk Assessment

If the practice site or state laws do not allow pharmacists to conduct health screenings, risk assessments are another way to increase patient interaction and provide patients with valuable information.[10,11] Risk assessments may also be used in combination with screenings, such as the Framingham Risk Assessment for which obtaining cholesterol and blood pressure values are necessary. As mentioned previously, risk assessments may be an activity related to a national health observance or a standalone activity that is offered in the pharmacy.

Student activities can be related to designing and implementing a new risk assessment program. Part of this activity should include researching different risk assessment tools for a specific disease state and choosing a risk assessment tool that will be appropriate for the practice site. Table 1 contains some resources for locating risk assessments on the Internet. Some risk assessment tools are available in paper format and others are available for completion via the Internet. Once a risk assessment tool is chosen, students should design an educational handout with the risk assessment score and how to interpret the patient's risk. Preceptors should have the students develop policies and procedures for the new risk assessment program.

After designing and implementing the program or if a risk assessment service is already in place at the practice site, student activities should center around identifying patients who should complete the risk assessment, performing and documenting the actual risk assessment, providing patient counseling and education, recommending lifestyle changes or preventative measures, referring to other healthcare providers, and providing follow-up. To enhance this activity, preceptors should have the student present 1-2 patient cases from the risk assessments. The case presentations can be brief but should address patient demographics, pertinent information about the risk assessment, plan, education and/or counseling, and follow-up.

Health Screenings

If the practice site and state laws permit pharmacists to conduct health screenings, this is another way for students to become involved in wellness and direct patient care. Providing various screenings within the pharmacy allows students to have extensive patient contact and will assist in the development of their communication skills as well.

Students can assist with implementing a specific type of screening into the practice or they can improve and enhance an existing screening program. Screenings that can be conducted within the community pharmacy include, but are not limited to, blood pressure, blood glucose,

Table 1. Selected Patient Risk-Assessment Resources for Use in a Community Advanced Pharmacy Practice Experience

Risk Assessment	Web Site
Health Check Tools	www.nlm.nih.gov/medlineplus/interactivetools/
Interactive Health Tools	www.brighamandwomens.org/healthinfor/healthTools.asp
Framingham CHD Risk Calculator	hin.nhlbi.nih.gov/atpiii/calculator.asp?usertype=pub
Men's Health	www.ncpanet.org/knowyourscore/assessment.pdf
Breast Cancer	bcra.nci.nih.gov/brc/q1.htm

cholesterol, osteoporosis, Alzheimer's disease, depression, metabolic syndrome, and body fat analysis.[12-22] For a practice site that does not already have established screenings in place, several steps may need to be taken.

Conducting non-invasive tests that do not require a human specimen, such as blood pressure or osteoporosis screening, have few or no regulations. Student activities for implementing these types of screenings include the development of screening forms, patient education materials, and a general policy and procedures guide for the site.

Tests that require human specimens, such as blood samples, are considered invasive and there are more stringent regulations and requirements for conducting those tests.[23] The Clinical Laboratory Improvement Act (CLIA) of 1988 was enacted to assist in the standardization of laboratory screening, personnel, and quality control. There are varying levels of laboratory testing based on the complexity of the test being performed. Most pharmacy-based screenings, such as blood glucose or cholesterol testing, are waived tests and are less regulated. These tests require the site to have a certificate of waiver from a local or regional Centers for Medicare and Medicaid Services (CMS) office and to agree to follow good laboratory practices. To enroll in the CLIA program a pharmacy must complete and submit CMS Form 116 for a Certificate of Waiver. A CLIA waiver is required to allow pharmacy-based laboratory screenings. If there are multiple screening sites, each site must have its own CLIA waiver. Complete information regarding CLIA and the waiver process is available at www.cms.hhs.gov/clia. A full list of waived tests can be found at www.cms.hhs.gov/clia/waivetbl.pdf. Students can learn about maintaining a pharmacy-based laboratory including good laboratory procedures, standard operating procedures, and quality control. Along with obtaining the CLIA waiver for performing screenings, pharmacies must also comply with the universal precautions for blood-borne pathogens regulations from the Occupational Safety and Health Administration (OSHA). OSHA regulates worksite safety and provides guidelines for protection, exposure actions, and proper policies and procedures. Complete information is available on the OSHA website at www.osha.gov.

Another activity for students is researching the various instruments and devices to perform screenings. For example, there are numerous lipid analyzers available for cholesterol screening. The most commonly used device is the Cholestech LDX. Obtaining information such as cost, supplies needed, and reliability of the instrument is important in selecting the appropriate device.

For practice sites that already have patient screenings in place, students could assist with enhancing the current program. Finding ways to increase the number of patients that take advantage of the screening services is an important task with which students could assist.

In addition to assisting with establishing and promoting the screening program, students can participate in administering the program, performing and documenting screening tests, providing counseling and education, recommending lifestyle changes or preventative measures, referring patients to other healthcare providers, and following up with patients to determine effectiveness/outcomes of the program. Preceptors should have students present 1-2 patient cases per week from the screening program. Students should be able to justify the recommendations made to their patients.

Involving students in planning and implementing a screening service in a pharmacy practice provides them with a unique and valuable experience, increased confidence, and the skills and tools for developing their own services and programs.

Specific Screenings

Students can be asked to lead a presentation and discussion of particular diseases, prior to conducting screenings. Providing appropriate and accurate patient counseling requires knowledge of the current guidelines and recommendations for the disease. For example, reviewing the JNC 7 Guidelines and all available antihypertensive medications with the student is a good way to increase his/her knowledge and confidence related to the screening and management of high blood pressure. Also, instruction in the proper operation of the equipment that will be used in the screening is important prior to the students' interaction with patients. For example, prior to providing cholesterol screening, the student should observe how to obtain the blood sample, operate the lipid analyzer, and counsel the patient based on the results. Patient education after a screening should include discussing diet, exercise, and potential drug therapy alternatives. Observing the preceptor screening a patient and discussing the patient's disease state will help the student become confident in providing patient care.

Immunizations

Immunizations are another area of wellness and disease prevention that pharmacists can implement at their practice site. Pharmacists have the authority to administer immunizations in 44 states.[24] Additionally, many colleges and schools of pharmacy have incorporated vaccine science and vaccines into the curriculum; therefore, APPE students will usually have some knowledge of immunizations. In 1997, the American Pharmacists Association's Board of Trustees adopted guidelines for pharmacy-based

immunization advocacy.[25] The guidelines include 3 levels: advocacy, facilitation, and administration. Activities for students should be designed around these levels.

In states that do not allow pharmacist or student pharmacist administration of immunizations, students should be involved in recommending immunizations to at-risk populations, educating patients about the vaccines, and referring patients to an appropriate health care provider. Additionally, students could research vaccine controversies and create handouts for patients with the facts about the vaccine controversy. Students could also research anti-vaccine web sites so they have an understanding of the information patients may be exposed to on the Internet.[26] Students could be responsible for updating the pharmacy's staff on the frequently changing recommendations regarding vaccines and for developing a vaccine record card for patients.

If the pharmacy practice is active in the second level, facilitation of immunizations (having another healthcare professional administer vaccines at the site), students could assist with screening patients for immunizations and processing paperwork. Students could also be involved with identifying at-risk patients, marketing the service, and answering questions.

In states that allow pharmacists to administer immunizations, students could assist with designing and implementing a new program or enhancing an existing one. For example, if the practice site offers only influenza vaccinations during October and November, students could design and implement a year-round immunization program, identifying patients at risk for other diseases for which immunizations are available such as tetanus-diphtheria or pneumococcal vaccine. Students could assist with the administration of vaccines if allowed by state law.

Preventative Services

Another way to approach wellness and disease prevention is to target patients based on their age. The US Preventative Health Services Task Force has a guide to preventative health services which is based on age and gender.[27] In addition, several other organizations publish preventative health checklists based on age and gender including the American Academy of Family Physicians (www.aafp.org), the American College of Physicians (www.acponline.org), and the American College of Obstetricians and Gynecologists (www.acog.com). Students could use these checklists to design a preventative services counseling program for the practice site. Another exercise is to have the student assess the usability of preventative health guidelines (ie, how difficult is it to identify the services recommended and determine how frequently they should be performed), and suggest changes that would make the checklists easier to use.

Lifestyle Counseling

Knowledge and training about educating patients on proper lifestyle choices is one of the keys to actually helping them make positive changes. Realizing each patient's specific situation and goals is essential in helping them attain those goals. Additionally, it is important to understand how patients make lifestyle changes. APPE activities could include researching and learning about the different theories addressing changing patient behaviors. Several models have been used by pharmacists including the Health Belief Model, Fishbein-Ajzen Theory of Reasoned Action, and the Transtheoretical Model.[28-30] Students should observe preceptors using these models in patient counseling, and then employ them when working with patients trying to make lifestyle changes. Other techniques used for disease and wellness programs that students should learn include conducting motivational interviewing and providing self-management education.[31]

Smoking Cessation

Tobacco use is one of the leading causes of mortality in the United States. Providing directed interventions toward patients who use tobacco is another way pharmacists and student pharmacists can become involved in wellness and disease prevention in their practice.

Students could provide brief interventions with patients, such as counseling them on the benefits of quitting, or more detailed interventions as part of a comprehensive smoking cessation program that includes conducting one-on-one counseling, making drug therapy recommendations, and providing follow-up care/counseling.[32-34] Students could assist in the development of forms describing the various nonprescription and prescription smoking cessation products available and the advantages and disadvantages, side effects, and cost of each.[35] Providing patients with detailed information regarding available pharmacotherapy can help them make informed decisions. To assist in the implementation and delivery of a smoking cessation program within the practice site, students could develop patient handouts, and patient interview and documentation forms.[32,33]

Students could also participate in one-on-one patient counseling sessions provided for patients. Additionally, some smoking cessation programs may include group educational sessions, students may be involved in creating and/or teaching these sessions. Offering smoking cessation therapy management and obtaining payment for the services will give the student a valuable experience in the

delivery of wellness and disease prevention services within a pharmacy practice.

Basic Nutrition and Exercise Counseling

A fundamental component of wellness and disease prevention is good nutrition and adequate exercise. Students should learn the basic nutrition and exercise information needed for pharmacists to appropriately and effectively counsel their patients regarding either prevention or management of disease.[8-9] This topic is usually not stressed in pharmacy curriculums and APPE's provide an excellent forum for students to learn about nutrition and exercise and practice their patient counseling skills.

Preceptors can assign readings and have a topic discussion about nutrition and exercise.[8-9] Students can research and learn about the differences between fad diets and create a chart for the pharmacy staff. Students could also do this for vitamins and dietary supplements.

Nutrition and exercise counseling can be incorporated into patient counseling during risk assessment, disease screening, and targeted intervention programs. Students could be involved in developing, implementing, and marketing a new patient care service for weight management or starting a body composition screening service. Possible activities would be similar to activities discussed in previous sections.

Targeted Interventions

Targeted intervention programs are programs designed to focus on promoting wellness, disease prevention, and healthy living for patients who already have a chronic disease. As with the other areas of wellness, student activities could include developing and implementing the target intervention program, including writing policies and procedures, creating monitoring forms, and developing or evaluating existing patient educational materials. For example, a targeted intervention program for patients with diabetes might center on ensuring that patients who have diabetes are receiving appropriate medications such as ACE inhibitors or aspirin therapy.[36] Even though this is not really wellness, it is prevention of future problems related to diabetes mellitus. A targeted intervention program for patients with diabetes mellitus could also include ensuring that these patients have access to appropriate preventative services, such as annual check-ups with a podiatrist and ophthalmologist and bi-annual check-ups with a dentist.

Conducting targeted intervention provides students with lessons in communicating with patients and providers, and in managing chronic diseases. Other activities could include the preceptor conducting topic discussions with the student that reinforce the student's knowledge of the pathophysiology and the pharmacologic and non-pharmacologic (lifestyle modifications and preventative measures) treatment of the disease. Students could be required to create a patient case and present all of this information to the preceptor, or ideally, the preceptor and the student could discuss specific patients in the targeted intervention program.

Targeted intervention programs can be used to assess the outcomes of the practices' patient care activities. These outcomes can be used by the pharmacists to market patient care services to self-insured employers or other payors. This gives the preceptor another opportunity for teaching APPE students. Students can be involved in the process of organizing the outcomes for presentation and developing materials for the meeting. Additionally, the preceptor can engage the student in discussions about compensation for patient care services.

Marketing

Acquiring a basic knowledge of marketing is important for APPE students since effectively marketing a pharmacy's services to the appropriate patient population not only increases the site's revenue stream, it ensures that patients are aware of the valuable and potentially life-saving services offered. Students should be involved with the marketing of any of the previously mentioned health promotion programs and preventative services. Students should be able to design marketing materials (signs, shelf talkers, brochures, and patient handouts) including a plan for how to inform patients about any new service or program. Students could also develop a marketing strategy that targets others such as caregivers, third-party payors, and family members. Preceptors could assign readings for students to learn more about marketing pharmacy services.[37-39] Another valuable activity is to have students participate in marketing the program to patients directly. Preceptors should use this activity to have discussion with the student about marketing, including the difference between product and service marketing. As another component, students could visit local physicians and their practices to market new programs and services.

Outcomes Assessment

All pharmacy services should be evaluated to determine the outcomes and success of the program and then this information should be used for continuous quality improvement. A learning activity for students could be designing an evaluation process for the risk-assessment program or performing evaluation activities such as tallying numbers of patients, number at risk, and number of referrals. Students could be involved with designing or researching available

evaluation tools for the program (eg, patient satisfaction instruments).[40,41]

CONCLUSION

A community APPE provides an excellent opportunity for developing and implementing wellness and disease prevention activities. Additionally, preceptor involvement with these activities provides a positive role model for students. In turn, teaching and practicing wellness and disease prevention for the benefit of patients and student pharmacists will help improve the professions' capability of making an impact on the health of the nation.

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