



BYLINES

The Best in the Business

Last fall, ASCP purchased independent marketing data showing how *The Consultant Pharmacist* compares with other pharmacy journals that accept advertising from the pharmaceutical industry. The company that performed this research, PERQ/HCI, also conducts independent readership surveys that are considered the gold standard by those who buy such advertising. Both the marketplace data and the readership survey information are invaluable. The readership survey data offer an independent measure of the journal's quality and its value to our readers, which helps us assess our success in meeting your needs. The marketing data show us how successful we are at attracting advertising, which underwrites the publication of the journal.

PERQ/HCI surveyed hospital pharmacy directors, hospital staff pharmacists, consultant pharmacists, and others. They asked which journals they read, how thoroughly they read them, whether they read advertisements, how they assessed the overall quality of the journals, and how they compared with other journals they received. What we learned from the 2004 PERQ/HCI readership survey is nothing short of phenomenal.

Compared with how pharmacists in other practice settings rate journals that are targeted to them, *The Consultant Pharmacist* is, by nearly every measure, the best read, most-valued journal in the field. While it might seem obvious that consultant pharmacists would find *The Consultant Pharmacist*, their journal, the most valuable publication for their practice, it is not a foregone conclusion. How

well the publication is regarded and read has a tremendous influence on where companies place their ads. Advertisers can choose from a variety of publications in their efforts to reach a particular audience, and they don't automatically assume that a society-published journal is the best choice. Moreover, while you might be able to predict which journals should be most popular and valuable among hospital pharmacists, community pharmacists, or consultant pharmacists, advertisers and publishers want to know exactly which journals health professionals read—and how thoroughly they read them. And, it is in the quality of readership that *The Consultant Pharmacist* has achieved a preeminent place among pharmacy journals and magazines.

In the 2004 PERQ/HCI survey, 81% of consultant pharmacists who receive *The Consultant Pharmacist* read it. The next closest journal is read by only 54% of consultant pharmacists, and no other journal is comparatively as well read by pharmacists in other practice settings. The PERQ/HCI readership survey also found that the vast majority of consultant pharmacists read *The Consultant Pharmacist* thoroughly. The number of consultant pharmacists who said they read all four of the past four issues is climbing—to 70% in the 2004 survey—and a remarkable 89% of consultant pharmacists in the survey read the journal in depth—24% from cover to cover. The survey also found that *The Consultant Pharmacist* gets the highest rating among consultant pharmacists for being helpful in practice and for being kept for future reference.

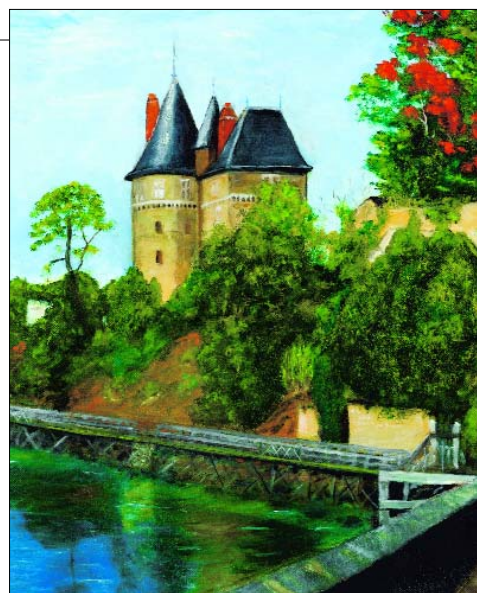
And, in a finding that holds great importance for advertisers, an incomparable 59% of respondents say they also read the advertising that appears in the journal.

We are honored by the value that our readers place in *The Consultant Pharmacist* and grateful for the contributions made to the journal by authors, reviewers, and our editorial advisory and review boards. And while we are extremely proud of the high regard in which our readers hold *The Consultant Pharmacist*, we know that this is *your* journal, and its value is a reflection of the professionalism and dedication of the practitioners who share their knowledge and expertise through the journal. Practitioners like you rely on the journal to improve the health, safety, and quality of life of at-risk seniors; it is our job to preserve and protect the integrity of the journal and to ensure that *The Consultant Pharmacist* continues to publish articles that meet your needs. I'd like to thank those readers who participated in the PERQ/HCI survey, and on behalf of the editorial staff, thank you for entrusting us with a journal considered to be the best in the business.

Robert Appel
Director of Communications

THE Consultant Pharmacist

January/Volume 20, Number 1



About the artist:

Mary Putnam, 76, started painting when she retired in 1990 from careers in both education and retailing. The painting, "Pornic, France," is based on a photograph given to her by a friend. Putnam has two sons and a great-granddaughter. Originally from Dumphries, Virginia, she now lives at the Leisure World retirement community in Montgomery County, Maryland.

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The Best in the Business
Robert Appel

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**The
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LETTER

I am confused, if not disturbed, by the lead article on page 736 in the “Health Trends” section in the September 2004 issue of *The Consultant Pharmacist*.

“Donepezil Not Cost Effective for Alzheimer’s, Study Finds” is the title of the article that appears, to me, to be incomplete if not actually misleading reporting.

It states “486 patients completed this period” and then accurately states the conclusion drawn by the authors of *The Lancet* article. There were 486 patients in the study at week 13, but there were only 20 patients at the completion of the study three years later. *The Consultant Pharmacist* leaves the erroneous impression that there were 486 of the original 565 patients at the conclusion of the study.

How anyone can make such a determination about efficacy in a cohort of only 20 is beyond my understanding, much less a conclusion of “ineffective” when there was a 33% reduction in nursing home placement at year 1 for those on donepezil compared with placebo.

In my opinion, there was important information left out of the article. Here are some examples:

- The UK National Health Service study, the subject of the above, was closed after enrolling only 565 patients in a study designed for 3,000.

- At the end of 12 weeks, only 486 remained.

- At the end of 60 weeks, only 293 remained.

- At the end of 1 year, 9% of the donepezil-treated patients had been placed in a nursing home, compared with 14% of the placebo-treated residents. This was not mentioned in *The Lancet* abstract.

- What was mentioned in *The Lancet* abstract was “no significant benefits were seen with donepezil compared with placebo in institutionalization at 3 years or progress of disability.”

This should have been mentioned as this measuring point (three years) of efficacy is very important; most clinicians do not expect donepezil to delay nursing home placement by more than one year, much less arrest the disease.

- Results were then reported out to three years and only 20 patients were left in the study (AD2000 Collaborative Group: long-term donepezil treatment in 565 patients with Alzheimer’s disease, *Lancet* 2004;363:2105-15).

The [AD2000] study was not over at the end of week 12, when 486 patients remained; it just was going into a different phase of the three-year-long trial.

Also, it would have been a service to the readers of your fine journal if the number of patients that were placed in nursing homes had been reported so the readers could have seen that more nursing home placement occurred in the placebo group, compared with the group on active medication.

Another nice service would have been a discussion on why only 565 patients were enrolled instead of 3,000, and why there was such a precipitous drop in the patient cohort.

How many times have we seen conclusions and abstracts that were in direct contradiction to the body and cold statistics of the actual article and study? How many times have we seen studies designed to prove a predetermined conclusion?

In volume 12, number 10, of the *Annals of Long-Term Care*, Dr. David Geldmacher writes, “From the results of this underenrolled and markedly

depleted patient cohort, the authors wrote the definitive conclusive statement that ‘donepezil is not cost effective.’ This is a strong statement and a surprising breach of scientific journalism.” Apparently, I am not alone in my concerns. Dr. Geldmacher is a nationally known Alzheimer’s disease researcher, consultant, and speaker for many pharmaceutical manufacturers, including makers of donepezil, but his article indicating the same concerns about the validity of the study.

The goal of *The Consultant Pharmacist* should be to educate and inform. My concern is that misinformation may have occurred in this instance.

Alvin M. Sandberg, BS, RPh, FASCP
Consultant Pharmacist

RESPONSE

Thank you for your thoughtful commentary on our news report, “Donepezil Not Effective for Alzheimer’s, Study Finds,” (*Consult Pharm* 2004;19:763.). Unlike our “Journal Review” column, which does a critical analysis of published research, the purpose of “Health Trends” is to report on the publication of new findings in the primary care literature. Our column reported, as many other periodicals did, on the study as portrayed by the authors in *The Lancet*.

We hope that our readers will personally evaluate the articles highlighted in the column. Critical readers such as you do a service to all readers of our journal and the residents and patients they serve. I am confident our readers will appreciate your insightful analysis.

H. Edward Davidson, PharmD, MPH
Editor-in-Chief



HEALTH TRENDS

TWO NEW STUDIES REVEAL KEY INFORMATION ON DISEASE-RELATED GENES

Researchers at Columbia University Medical Center have found two locations in the human genome that may harbor genes that increase the risk of Alzheimer's disease (AD). If the results are confirmed, they will be the first genes linked to AD since ApoE4 was discovered in 1993. The findings are published in the November issue of *Molecular Psychiatry* (Molecular Psychiatry 2004;9:1042-51).

In another gene research finding, an international research team, led by scientists at the National Institute on Aging (NIA), has discovered a gene which, when mutated, causes Parkinson's disease in some families. This discovery and further study of how the gene works could open up new avenues of research for preventing or delaying the onset of the disease, researchers said. The finding was published online by *Neuron* (www.neuron.org).

In the AD study, researchers think that the disease is caused by the interaction of several different genes, but so far only one gene, ApoE4, has been linked conclusively to the disease. Finding the other genes will be a huge step toward understanding how AD begins and how it can be treated, researchers say. It will also allow clinicians to predict who will develop AD later in life and who will benefit from appropriate medications.

The new study found strong evidence for new AD genes on chromosomes 18 and 10. The region on 18 had never been strongly linked to the disease before, while the link to chro-

mosome 10 confirms previous findings by other AD researchers, the study reported. The evidence for both locations is relatively strong because the researchers used a large collection of 96 families with AD. They studied a total of 490 parents, children, and siblings. The researchers do not yet know which gene in the chromosome 18 region is responsible, but since the region is small, there are only a few possibilities, they say.

The region on chromosome 10 had been linked to AD before, but only in studies of Caucasian families. The current study found the link in Caribbean Hispanic families, most of whom live in the Dominican Republic.

In the Parkinson's study, investigators studied five families with a history of Parkinson's disease who lived in the Basque region of Spain and in England. First, the group identified a small region of the chromosome 12 shared by all of the Basque families and then systematically assessed each gene in this region for mutations that might cause disease. The investigators identified two mutations in the same gene, one associated with Parkinson's disease in the Basque families and the other that was linked to the disease in the English family.

ELDERLY PATIENTS UNDER-REPRESENTED IN TRIALS OF NEW CANCER DRUGS

New research indicates that cancer patients over 65 years of age are underrepresented in registration trials of new cancer agents, according to a study in the *Journal of Clinical Oncology*

(*J Clin Oncol* 2004;22:4626-31).

"If elderly patients do not participate in clinical trials, the treatments resulting from those trials may not be appropriate for them," according to lead author Lilia Talarico, MD, of the Division of Oncology Drug Products and Center for Drug Evaluation and Research at the U.S. Food and Drug Administration (FDA). "This is a significant concern given that elderly patients represent the majority of cancer patients in the United States."

The findings are based on an analysis of demographic data for 28,766 cancer patients enrolled in a total of 55 registration trials. The ages of these patients were compared with the ages of patients in the overall U.S. cancer population; 60% of patients are at least 65 years of age. Yet, in the registration trials, only 36% of subjects were in this age group, researchers report.

Similar differences were noted among subjects who were at least 70 and 75 years of age. The percentage of subjects in the cancer population and in trials was 46% and 20%, respectively, for the former group and 31% and 9%, respectively, for the latter group. With the exception of trials looking at breast cancer hormonal therapies, all of the studies showed significant underrepresentation of the elderly ($P < 0.001$). Most of this underrepresentation involved subjects who were at least 70 years of age. To improve representation of elderly cancer patients in new drug trials, the authors recommend using study protocols specifically designed for this age group, treatment modifications appropriate for older subjects, and using less stringent eligibility criteria.

CLINICAL VIGNETTES CAN HELP MEASURE QUALITY OF CARE

Clinical vignettes can be a useful tool in measuring clinical quality, according to research published in the *Annals of Internal Medicine* (Ann Intern Med 2004;141:771-80). Researchers found that despite variations in the quality of clinical practice, the vignettes can be used for diverse clinical settings, diseases, physician types, and situations in which case-mix variation is a concern that may apply to pharmacists as well. This approach, is inexpensive and easy to use. It is particularly useful for comparing quality among and within sites for longitudinal evaluations intended to change clinical practice, the researchers found.

The study was conducted in outpatient primary care clinics in two Veterans Affairs medical centers and two large, private medical centers. One hundred-forty-four of 163 eligible physicians agreed to participate, and of these, 116 were randomly selected to see standardized patients, to complete vignettes, or both.

Among all physicians, the quality of clinical practice as measured by the standardized patients was 73% correct (95% CI, 72.1% to 73.4%). By using exactly the same criteria, physicians scored 68% (CI, 67.9% to 68.9%) when measured by the vignettes but only 63% (CI, 62.7% to 64.0%) when assessed by medical record abstraction. These findings were consistent across all diseases and were independent of case complexity or physician-training level. Vignettes also

accurately measured unnecessary care. Finally, vignettes seem to capture the range in the quality of clinical practice among physicians within a site, the study found.

VACCINATION AGAINST INFLUENZA DECREASES RISK OF DEATH IN ELDERLY

A study from the Netherlands suggests that elderly persons who receive a yearly influenza vaccination have reduced risk of death from all causes, according to research in the *Journal of the American Medical Association* (JAMA 2004;292:2089-95).

"Influenza-associated morbidity and mortality increase with age, especially for individuals with high-risk conditions," the authors said. In this study, A.C.G. Voordouw, MD, from Erasmus Medical Center, Rotterdam, Netherlands, and colleagues, analyzed data from 1996 through 2002 from electronic patient records that were part of the Integrated Primary Care Information Project of Medical Informatics at the Erasmus Medical Center. The study included 26,071 persons aged 65 years or older.

During the study period, the population studied received 62,476 influenza vaccinations. The annual vaccination coverage ranged from 64% in 1996 to 74% in 1999. Influenza epidemics during the study period were of mild to moderate severity with the 2000-2001 season showing no clear epidemic activity.

During the study follow-up period, 3,485 patients died. "Overall, a first vaccination was associated with a

nonsignificant annual reduction of mortality risk of 10%, while revaccination was associated with a reduced mortality risk of 24%, the authors report. The authors note that in the total population, one death was prevented for every 302 vaccinations, or one for every 195 revaccinations.

"In summary, our study shows that annual revaccination against influenza in a population of community-dwelling elderly persons is associated with a reduction of mortality risk. This study supports the recommendation for yearly influenza vaccination for elderly individuals, not only for those with comorbid illness but also in those without comorbidity and in patients 80 years or older," the study found.

STATINS DO NOT REDUCE RISK OF ALZHEIMER'S DISEASE, STUDY REPORTS

A study in the journal *Neurology* (Neurology 2004; 63:1624-8) suggests that statins offer no protection against dementia or Alzheimer's disease (AD), except possibly in cases of early-onset AD. This finding runs counter to recent reports indicating that these drugs do, in fact, reduce the risk of dementia and AD.

The authors of the present study believe the discrepancy may relate to how the data were analyzed. Gail Li, from the University of Washington in Seattle, and colleagues assessed the outcomes of 2,356 cognitively intact elderly subjects enrolled in a health maintenance organization. A total of 13,110 person-years of

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follow-up were included in the analysis. During follow-up, 312 subjects were diagnosed with all-cause dementia and 168 with probable AD, the researchers said.

Statin use did not have a significant effect on the risk of dementia or AD. Moreover, there was no evidence of a dose-response effect. Although statin use was linked to a reduced risk of probable AD in subjects younger than 80 years with at least one APOE E4 allele, association fell short of statistical significance ($P = 0.06$).

"Our results argue against the general premise that statins used for prevention of coronary heart disease will result in prevention of dementia or AD, except perhaps in subgroups at high risk for early onset AD or in persons starting statins at a younger age and taking them for longer periods of time," Li's team noted.

ONE-SHOT TREATMENT FOR OSTEOPOROSIS IN CLINICAL TRIALS

Researchers are working on a new one-shot treatment for osteoporosis with an experimental drug called AMG-162 that can be given every six months. Michael McClung, MD, director of the Oregon Osteoporosis Center in Portland, presented his research at the 26th annual meeting of the American Society of Bone and Mineral Research (ASBMR).

AMG-162 has a potent effect on preventing bone breakdown, indicating that it has the potential to be a promising new treatment that can be given in a very convenient form, says

McClung. The drug, which helps combat cells responsible for bone breakdown, inactivates a substance called RANKL that is responsible for the formation, activation, and survival of cells that destroy bones.

In the study, more than 400 postmenopausal women with osteoporosis received injections of various doses at three-month intervals or six-month intervals. After 12 months, the researchers compared bone mineral at the hips of these women with bone density in women who took either 70 milligrams a week of alendronate or placebo.

McClung says all the doses of AMG-162 increased bone-mineral density by 4% to 7%, which is as good as the 5% increase seen in women taking alendronate. But the 60-milligram injection once every six months was "significantly more effective," he says. Measurements taken in the arm and other parts of the body showed similar results.

"This is a major development," said Clifford Rosen, MD, a past president of the ASBMR, clinical professor of nutrition at the University of Maine, and director of the Maine Center for Osteoporosis Research.

The most common adverse event in any of the treatment groups was dyspepsia, 4%, 5%, and 20% in the placebo, AMG 162, and open-label groups, respectively.

Marlene Z. Bloom
Managing Editor

How Teaching Students About Geriatric Pharmacy Can Help Patients—and You

“When I’m old, I want my pharmacist to know how to take care of me,” says Judith L. Beizer, PharmD, CGP, FASCP, clinical professor, College of Pharmacy & Allied Health Professions, St. John’s University, Jamaica, New York. That is a goal that anyone in ASCP would champion. But how do pharmacy students learn about the special pharmacy needs of older patients? Even more important, if they have taken didactic course work in geriatric pharmacotherapy during pharmacy school, how do they translate that knowledge into practice?

The best answer is working with a consultant pharmacist preceptor during a clinical rotation. These experiences not only will help students learn, but they also can invigorate the practices of senior care pharmacists.

A preceptor is a practitioner who teaches students about pharmacy in real-world settings. “Preceptors are role models, teachers, and coaches,” says Joy B. Plein, RPh, PhD, CGP, Professor of Pharmacy, University of Washington and a preceptor at Hearststone Continuing Care Retirement Community in Seattle, Washington.

This and nine other locations are sites for Senior Care Pharmacy

(SCP) Student Rotations identified by the ASCP Research and Education Foundation as among the best in the nation (see sidebar, page 26). “We can provide students with information about pharmacotherapy and talk about disease states, but it’s not real until they are out there in practice—in long-term care facilities, hospitals, and the community—that they really understand it,” adds Beizer. “Someone taught you—now it’s time to give back.”

For many students, consultant pharmacy still equals nursing home pharmacy. But, the practice environment and the growing numbers of aging adults have opened up many new venues. Consultant pharmacists now practice in hospitals, subacute care facilities, assisted living facilities, psychiatric hospitals, hospices, and home- and community-based settings.”

Tamara Reado, PharmD, a 2004 SCP Student Rotation Program Scholar from the University of Florida A&M, has completed her clinical rotation in a managed care health maintenance organization, which had a high percentage of minority Medicare patients. Preceptors select scholars who are exceptional students and have completed an approved SCP student

rotation. Her internal-medicine preceptor got her interested in geriatric pharmacy, she says, and it was an eye-opener. “I saw the importance of taking that extra time to educate the older patients so they really understand how to take their medications,” Reado says. “It’s really a good feeling, and the patients are so grateful.” She graduated last year and says she’d like to become a consultant pharmacist within the next five years.

Although many schools of pharmacy offer elective rotations in geriatric pharmacy (see box, page 18), students must make the choice between several different types of rotations: Emergency Department, Intensive Care Unit, or Geriatric Pharmacy. Without understanding geriatric pharmacy, many would turn away the opportunity. “Students know about hospital and retail pharmacy, but many students have no experience with specialty senior care pharmacy practice,” says Plein.

Michael Leifheit, PharmD, a graduate from Ohio Northern University School of Pharmacy, said he never knew how much consultant pharmacists did before doing his rotation at Blanchard Valley Regional Health Center in Findlay, Ohio. “I pictured that all consultant

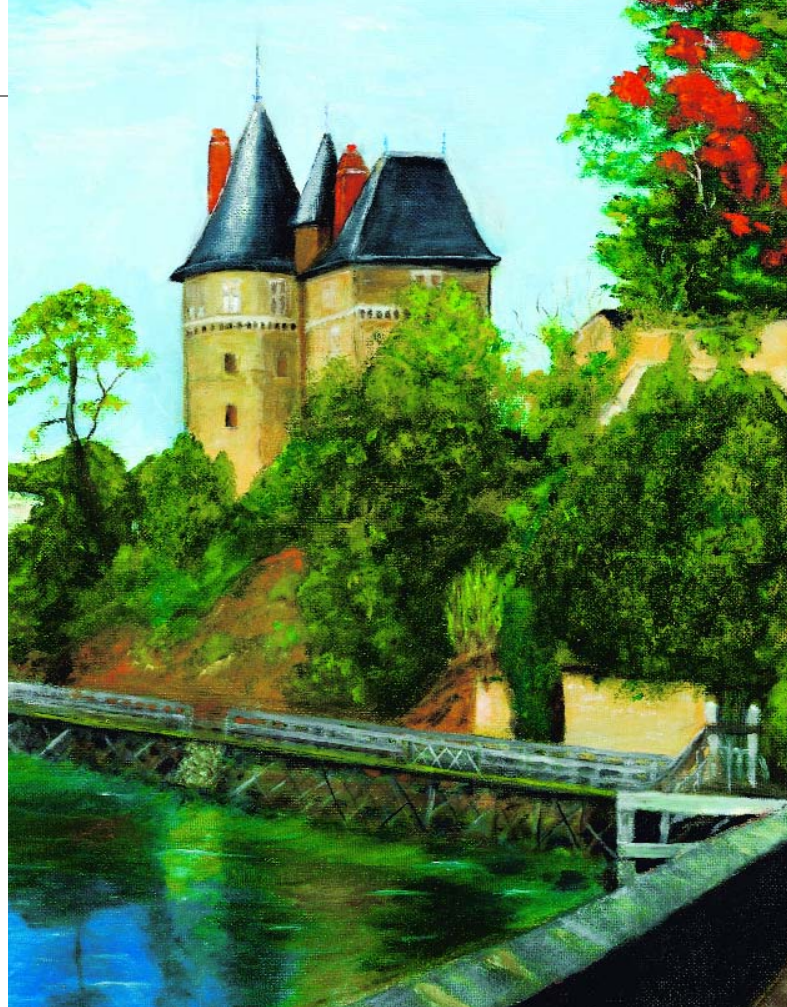
pharmacists did was review charts,” he said. Leifheit soon found out that this was far from the reality. Students on his rotation went on rounds with the physicians, made drug therapy suggestions on patients’ charts, and talked to patients. His preceptor, Tracey Pierce, PharmD, CGP, also had students take active roles in support groups for families and provide drug information for other health care providers.

Kristin S. Meyer, PharmD, CGP, Assistant Professor of Pharmacy Practice, Drake University and a preceptor of a SCP Student Rotation, agrees. “We need to get more consultant pharmacists precepting students,” says Meyer, who works in the 750-bed Iowa Veteran’s Home four days a week. She says

Marlene Z. Bloom is the Managing Editor of *The Consultant Pharmacist*.

Editor’s Note: Much of this feature is based on a presentation, “Precepting Students 101,” given at Senior Care Pharmacy ’03, ASCP’s 34th Annual Meeting and Exhibit, November 2003, San Antonio, Texas. The presenters were: Judith L. Beizer, PharmD, CGP, FASCP, clinical professor, College of Pharmacy & Allied Health Professions, St. John’s University; Joy B. Plein, PhD, CGP, Professor of Pharmacy, University of Washington; and Kristin S. Meyer, PharmD, CGP, Assistant Professor of Pharmacy Practice, Drake University.

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Although many schools of pharmacy offer rotations in geriatric pharmacy, very few require this rotation for graduation. Without having the chance to practice senior care pharmacy, many students will miss an important opportunity.

Status of Geriatrics in the Curriculum

A survey conducted in 2001 by ASCP showed that although most colleges offer practice experiences in geriatrics, there is a wide range in the number of hours devoted to geriatric-related topics in the didactic curricula. Forty-seven out of 86 colleges in the United States and Canada responded to the survey, generating the following information:

- 48% of the colleges integrate geriatric pharmacotherapeutics into their therapeutic courses, 12% have a separate section, and 40% do both.
- 60% of the colleges offer an elective course in geriatrics.
- 96% of the colleges offer advanced practice experiences in geriatrics.
- 75% offer early practice experiences, either pharmacy-related or service learning.

In a more recent survey on geriatric education, conducted in 2003, all responding schools (42 out of 84) schools indicated that they offered some type of course material in geriatrics (see article on page 45). Six out of the 42 (14%) schools offered geriatrics as a mandatory course as a part of their PharmD curriculum. Sixteen (38%) schools had geriatric course material integrated within another required course, and 13 (31%) schools offered it as an elective course. The remaining schools reported teaching specific geriatric course contents in different practice settings. Only 1 school out of the 42 actually had a geriatric course pathway, a specialization track in geriatric pharmacy practice.

that her students at Drake had no idea what a consultant pharmacist was until they did a rotation with her.

Pharmacy preceptors are needed to provide student rotation sites, teach, and display the expertise and enthusiasm that will fire up their students to learn how to provide pharmaceutical care for seniors. Experts stress that being a preceptor is not a one-way experience. Both students and preceptors can learn from student projects. “It’s a win-win situation,” says Plein.

Benefits of Being a Preceptor

Beizer, the winner of the 2001 Richard S. Berman Service Award and a member of the ASCP board of directors, says being a preceptor can provide the pharmacist with great personal satisfaction and growth. “You learn because students are going to challenge you every day,” she says. “Besides making you feel good, you are going to feel more professional.”

There are other, subtle, benefits for preceptors, Beizer notes. Although some universities pay preceptors, it’s only a token amount. However, they might offer free continuing education, allow some tuition credit, or accept the preceptor as an adjunct clinical professor, which may offer research opportunities—and prestige.

What You Need to Be a Preceptor

The mission of a senior care pharmacy rotation is to increase oppor-

tunities for experiential education for pharmacy students interested in geriatrics, pharmacotherapy, and the medication needs of the elderly. The ASCP Research and Education Foundation has developed guidelines for senior care pharmacy rotations with virtually everything a pharmacist needs to know to become a preceptor. But there are some basic requirements. Preceptors must:

- Have at least a year of experience practicing at the site of the rotation
- Have established knowledge in the area of the rotation (for example, being a Certified Geriatric Pharmacist)
- Be involved in lifelong learning (read relevant journals, attend pharmacy meetings, belong to professional or aging-focused organizations)
- Devote some time to your students on a regular basis (for example, how many hours a week will you be able to meet with them?)
- Be familiar with state and federal policies affecting patient care

Implementing a Preceptor Program

Setting up a rotation, also called a clerkship, means establishing a relationship with a university as well as involving people at your practice site, says Plein. The preceptor directs the program for the students, managing it collaboratively with the university and the practice site.

Potential preceptors should get a guide from the university explaining

the school's rotations, its length and locations, documentation policies, and evaluations. It will help practitioners design a rotation that will fit into the college's teaching program. Most clerkships have students onsite full-time for four to six weeks. Others can have students part-time, e.g., for 10 hours per day, two days per week for eight weeks.

Plein outlines eight steps to setting up a program:

1. Get a copy of the SCP Student Rotation Program Guidelines from the ASCP Foundation Web site (www.ascpfoundation.org). It contains objectives, a list of activities to incorporate into the rotation/clerkship, evaluation forms, and other useful information.

2. Contact the university's school or college of pharmacy and ask to speak to the person in charge of the practicum or director of experiential education and arrange a visit. The practicum professor will be delighted to hear from you. The school needs teachers and sites for students. Talking to the university is going to be like an interview, so take your curriculum vitae with you. You should have some idea of what your site can offer and what some of the activities

are that your site can provide.

3. Draft a clerkship plan (see step 1) that you can propose when you visit the school.

4. Promote the plan to the people that you work with at your site. You need to involve them and make them a part of the process. The site administrator of the facility probably has some good ideas of how to work with the students. Also involve the nurses and other health professionals; this way they will have bought into this program.

5. Submit the plan to the school and to the site. Have them go over it and make suggestions.

6. Make a formal agreement with the university and the site, specifying what the students will do, and discussing your reimbursement, if any.

A preceptor is a practitioner who teaches students about pharmacy in real-world settings.

How Teaching Students About Geriatric Pharmacy Can Help Patients—and You

7. Promote the program to the university faculty. Invite them to see what you are doing because they will help promote it to the students.

8. Run with the program.

Preceptors say the American Association of Colleges of Pharmacy's task force on experiential education can provide examples of the types of projects students undertake while on rotation. Potential preceptors need to have some idea of the type of projects the students can do that will help the site. For example, in one case the facility and the students and faculty developed the first protocol for monitoring psychotropic medication use and established a protocol for use of nonsteroidal anti-inflammatory drugs. Preceptors should work with the staff on the site to accomplish these goals, Plein advised.

Sometimes students can help staff solve a problem, and students enjoy this. Also acknowledge the help of the staff who work with the students. Send them a letter of thanks—and copy their administrator.

Creighton University School of Pharmacy has taken an unusual approach to establishing clerkships. Maryann Z. Skrabal, PharmD, Assistant Director of the Office of Experiential Education, says Creighton has set up the first distance-based program in the country, which complements its campus-based program. This long-distance approach allows students to get

practical experiences in the communities in which they plan to practice after graduation, Skrabal says.

Students sometimes find their own clerkship sites or potential preceptors, contact the school, then go through an extensive screening process. There is one thing on which all preceptors agree: there is a big need for this kind of training, and they always are looking for quality clerkship sites for students throughout the country.

Excellent Care

It goes without saying that site faculty need to provide excellent care to be able to show the students what good pharmacists do, how to treat patients, and how to interact with other professionals on the health care team. It's important for students to see interdisciplinary practice, preceptors say. They also advise that there be an agreement between the facility and the staff on what the students can and can't do. For example, will a student be allowed to write in the chart? Does everything students write in the chart need to be countersigned by the preceptor?

Students need to learn that just doing chart reviews probably won't uncover the patients' drug therapy problems, Plein says. They should talk to patients. Be sure to give them specific instructions on what type of information to get from the patients. Then the students should formulate their recommendations to the primary care provider. The recommendations need to be patient-specific, down to the dosage form and time of day that the medication should be given. It should include a discussion of the several options available, the rationale for choosing a specific drug, and a plan for monitoring the drug for efficacy, safety, and side effects.

However, keep in mind that "Everything doesn't need to be

Consultant pharmacists now practice in hospitals, subacute care facilities, assisted living facilities, psychiatric hospitals, hospices, and home- and community-based settings.

How Teaching Students About Geriatric Pharmacy Can Help Patients—and You

Senior Care Pharmacy Rotations

Geriatric rotations exist throughout the country, as part of university-based curricula. To bring attention to the dearth of quality geriatric rotation experiences, the ASCP Research and Education Foundation developed the Senior Care Pharmacy (SCP) Student Rotations Program. Guidelines for this specialized rotation experience were established by a SCP Student Rotations Planning Committee composed of academicians from colleges of pharmacy and consultant and senior care pharmacists. The goal of these rotations is to increase opportunities for experiential training for pharmacy students interested in geriatric pharmacotherapy and the unique medication-related needs of the older adult population. Rotation sites are expected to provide a wide array of practice settings and experiences for pharmacy students.

The following geriatric rotations have been approved as ASCP Foundation Senior Care Pharmacy Student Rotations:

- Blanchard Valley Regional Health Center/Ohio Northern University, Findlay, Ohio; Preceptor: Tracey Pierce, RPh, CGP, FASCP
- Geriatric Pharmacotherapy Rotation/University of Maryland School of Pharmacy, Baltimore, Maryland; Copreceptors: Nicki Brandt, PharmD, CGP, BCPP and Jennifer Hardesty, PharmD
- Holladay Healthcare/University of South Carolina, Mooresville, North Carolina; Preceptor: Margaret Sgritta, PharmD
- Iowa Veterans Home/Drake University, Marshalltown, Iowa; Preceptor: Kristin Meyer, PharmD, CGP
- Physicians Healthcare Plans, Inc., Coral Gables, Florida; Preceptor: Mercedes Gonzales, PharmD, CGP
- Providence Hospital and Carroll Manor Nursing Home/Howard University, Washington, D.C.; Preceptor: Patricia Ayuk-Egbe, PharmD
- Skilled Nursing Facility and Camellia Place Assisted Living at East Alabama Medical/Auburn University, Opelika, Alabama; Preceptor: Kristen Helms, PharmD
- St. John's Hospital, Springfield, Illinois; Copreceptors: Marilyn Burton, RPh, MBA and Jennifer Rogers, RPh
- University of Washington at Hearthstone, Seattle, Washington; Copreceptors: Joy Plein, RPh, PhD, CGP and Carroll Ray Steiner, RPh, CGP, FASCP
- University of Washington Outreach and Consulting at Legacy House, Seattle, Washington; Preceptor: Annie Lam, PharmD, FASCP

Rotation sites and preceptors are being solicited from the ASCP membership and other senior care pharmacists from across the United States and Canada. More detailed information can be found at the ASCP Foundation Web site: http://www.ascpfoundation.org/programs/prog_seniorcarerotations.htm

How Teaching Students About Geriatric Pharmacy Can Help Patients—and You

perfect,” notes Plein. “If there is a problem, students can help you solve it. It’s not necessarily a bad thing,” Beizer adds. “Sometimes you need to throw the textbook away because you have a patient with drug-related problems that can only be solved by critical thinking.”

Students in Meyer’s rotation must do three formal patient case presentations to doctors and nurses, for example. Once a week there are more informal presentations, including reviews of new drugs, chronic disease states, or analysis of journal articles. Students are encouraged to use primary sources to gain experience with researching the literature.

Make every activity a teaching moment, adds Meyer. And be sure to have plans for evaluating student competency. “It’s hard to grade a student, even pass/fail, if you don’t have criteria that you understand and they understand.” (See Helpful Ideas on working with students, page 73).

Helping Patients

Newly minted PharmD Reado says, “It’s really important for pharmacists to practice in geriatrics because adjustments in drug therapy can make a difference. It can alter a person’s whole life.” Reado says the biggest surprise during her rotation was how noncompliant her older patients were. “For example, they don’t understand the importance of taking their blood pressure medicine every day, even after we put in the effort on education.” Their reasons are different: the drugs have side effects or make them tired. However, if the pharmacist can talk to the patient about the problem, he or she can decrease the dosage or use a different agent, often in the same class of drugs, says Reado.

Leifheit adds that his experience in the hospice setting definitely opened his eyes about how much

pharmacists can help patients. “I never understood how much palliative care pharmacists can provide and how effective they can be in pain management,” he says. Reado said her rotation “reinforced the need for more pharmacists to practice in this area.” With the growing elderly population, understanding geriatric pharmacy is key, agrees Leifheit. “You not only can help people live longer, but you also can improve their quality of life. Senior care pharmacy includes not only the medical part but also the social part of caregiving.”

Being a preceptor is well worthwhile, concludes Meyer. “By doing this, you increase the number of consultant pharmacists in the world.” ☺

Students made suggestions on patients’ charts, talked to patients, and provided drug information for other health care providers.



Senior Care Pharmacy Profile

Dale and Judy Jones: Making It on Their Own

Ever thought about going off on your own to start a consulting-only business? Wonder if it's really possible to create a consulting-only practice in a field that seems to be dominated by large long-term care pharmacy providers? Dale and Judy Jones, of Charlotte, North Carolina, have proved that it is possible. This husband-and-wife team operates a thriving consulting-only practice in North Carolina and Virginia.

Their current business encompasses approximately 5,000 long-term care patients in a variety of settings, including nursing homes, assisted living facilities, and homes for the developmentally disabled (often referred to as ICF/MR homes). With plans to add another 1,600 patients in the next several months, Dale and Judy Jones prove that "keeping up with the Joneses" is no easy task.

Despite their success, the Joneses are the first to admit that they don't consider themselves savvy entrepreneurs or even people with exceptional business acumen. "We've never really had a business plan," confesses Judy Jones. Their company, Jones Professional Services, started about 20 years ago when Dale and Judy were both working

long hours in retail pharmacies. "When our first child was born, Dale and I were working across town from each other, on opposite shifts, so we literally only saw each other one evening a week," recalls Judy. "I knew I wanted to be at home more, but this was when nursing home regulations were still evolving, so finding work was somewhat piecemeal. In the late 1980s, the Omnibus Budget Reconciliation Act regulations caused the drug regimen review (DRR) process to become more rigorous, and local independent pharmacies found that they began to need someone focused on providing the DRR in nursing homes. That's when I started picking up business," she says. For Judy, the timing couldn't have been better, as she was able to work part-time in the early 1980s while raising their three children, and then expand the business as the children grew. Dale continued to work in retail until the early 1990s, when Jones Professional Consulting truly became a team effort, operating as a sole proprietorship and contracting pharmacists to help service their nursing homes. "We have no employees," Judy explains, "yet we've always found good pharma-

cists to work with us as independent contractors. There are a lot of pharmacists, especially women with young children, who are looking for jobs with flexibility and who don't need insurance benefits. We're able to offer them a great working environment, flexible schedules, and a chance to really make a difference to the patients they serve. Most areas of pharmacy practice don't offer that."

Dale adds that contracting consulting services across the state allows the Joneses to eliminate what may be the number one complaint of most consultant pharmacists: long drive times. "We really try to cut down on drive times by finding consultants to work specific regions, so that they are not driving all over the state." However, Judy is quick to note that they carefully choose the consultants they contract. "It's important that we maintain the high quality of service that has built our reputation, so we don't just look for someone with a license," she explains. "We pride ourselves on having consultants who know what they are doing. We also make sure they are the type of people who can effectively communicate with the facilities and



Dale Jones



Judy Jones

pharmacies, problem solve, and are self-motivated to provide excellent service with minimal supervision.” Dale and Judy mentor pharmacists who are new to long-term care until they think they are ready to be on their own.

Surprisingly, the Jones’ business seems to be somewhat immune to the constant changes in facility ownership and pharmacy consolidations that are commonplace in long-term care. She attributes this to the flexibility she has for being able and willing to provide additional services at short notice and the personal attention she provides to her facilities. “If a facility calls with an urgent need for an in-service or family night presentation, or needs help with a diversion issue or other problem, we are able to address it right away. We don’t have to worry about going through any sort of chain of command or paper trail. Our facilities know that they can call us and talk to us directly and get the problem solved.”

Caren McHenry Martin, PharmD is a consultant pharmacist with Stanley Lab in Greensboro, North Carolina.

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**By providing consulting-only services,
this husband-and-wife team provides
specialized pharmacy services that cater
to the needs of their customers.**

It's this sort of customer service that the Joneses say is fundamental to the steady growth of their business over the past two decades. "We've never advertised or marketed our services," Judy states, "yet the business keeps growing." They think that the secret is doing the best job you can and understanding who the customers are. "I feel like each individual facility is my customer," says Judy, "but the pharmacy that provides the service is also my customer. Ultimately, the resident is my customer, as well, because if I can free up some of their dollars from an unnecessary medication or change their medication regimen to free up time for a nurse so she can offer a little more to the resident, I've done good all the way around."

UNIQUE CHALLENGES, UNIQUE REWARDS

Unlike consultants who work for a provider pharmacy, the Joneses work for many different pharmacies, mostly small to mid-size independent pharmacies, some of which are devoted exclusively to long-term care and others who offer both long-term care and retail services. "It can be challenging working for different pharmacies, Judy notes. "Some pharmacy operations are a little bit tighter than others, so it is my job is to figure out how the pharmacy that provides services to each building needs me to be a liaison. You can't go in with preconceptions about how the pharmacy services should be provided, or try to make each provider or facility operate the same way."

Another challenge is handling the frequent requests Jones Professional Consulting receives for "relief" work. "We get calls from other pharmacy providers who find themselves with a sudden loss of consulting manpower, and they ask us to fill in the gaps," says Dale. "We try to never say 'no' to these requests, but, of course, it can be challenging to figure out how we're going to

cover the extra beds." Time spent coordinating schedules, contacting facilities, and creating programs is often uncompensated, but Judy chalks this up to the cost of doing business. "We can't nickel and dime over prices because the larger providers will be able to outbid us every time," she states. "Facilities and pharmacies have to see the value of your service and understand what you can bring to the table as far as keeping the customers satisfied." Being husband/wife owners of a business can make taking vacations somewhat difficult, too, says Dale. "It takes a lot of planning and organizing for us both to take off time, but we try to make that a priority," he says.

The Joneses agree that the rewards of their business greatly outnumber the challenges. "We value having the flexibility to spend time with our family and do some of the things we like to do" (like Dale's photography hobby or their other small business selling Scottish import items). "You can't put a price on that," she adds, "and it's nice to not have to ask anybody's permission." But the Joneses also agree that the ultimate job satisfaction comes from what they can do for their individual residents.

"I'll never forget a man at one of my nursing facilities who had cerebral palsy and mental retardation and who scooted around the building on his knees, literally pulling himself along with his arms and dragging his body behind him," recalls Judy. "He

The Joneses work for many different pharmacies, mostly small-to-mid-size independents, some of which are devoted exclusively to long-term care.

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Senior Care Pharmacy Profile Dale and Judy Jones: Making It on Their Own

was on a fair number of antipsychotic and anticholinergic medications, and I could tell just from observing him that he was no threat, had no behavior problems, and we started gradually tapering his medications.” The resident eventually began walking and became functional enough to go to a group home. “I will carry that with me for the rest of my life, knowing that I changed the rest of his life, for the better.”

KEEPING UP PROFESSIONALLY

With all the demands of running the business, it’s a wonder that the Joneses find time to keep up-to-date on the latest clinical and regulatory issues, but they agree that doing so is instrumental to maintaining their company’s reputation. Dale and Judy

are regular attendees at local and national ASCP meetings and have both participated in traineeships offered by the ASCP Research and Education Foundation. “I have participated in the Parkinson’s disease and geropsychiatry traineeships, and Judy participated in the disease management traineeship,” notes Dale. “We both found them to be extremely rewarding. Not only did we increase our knowledge of the particular diseases, but we also increased our confidence in making recommendations and communicating with prescribers,” he adds.

The Joneses also precept pharmacy students on a long-term care pharmacy rotation and have had students from as far as Nebraska and Colorado request their rotation.

The Joneses also precept
pharmacy students on long-term
care pharmacy rotations.

The rewards of their business
greatly outnumber the
challenges, they say.

Senior Care Pharmacy Profile

Dale and Judy Jones: Making It on Their Own

“So many students don’t have a handle on what long-term care is or what the elderly are like,” says Judy, “so it’s a joy to show them what you can do for residents who they otherwise might have thought were just ‘too old’ to help.” Additionally, Dale and Judy feel that their Certified Geriatric Pharmacist (CGP) credential has opened doors for them. “When you talk to a facility administrator or owner, if you can qualify

yourself with these credentials, you tend to get their attention and they know you have a lot to offer.”

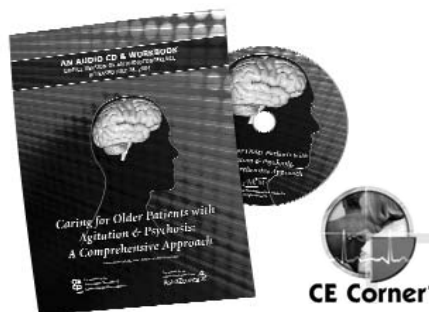
WORDS OF WISDOM

“It really is possible to provide consulting-only services,” says Judy. “There will always be small pharmacy operations, small long-term care companies, and ‘mom-and-pop’ facilities that aren’t interested in working with other pharmacy providers in

our area,” she says, because they want certain types of dispensing or other services that their business can offer readily. “We fill a void left by others,” Judy says. But the secret is that the business won’t grow overnight, and you have to have the ability to wait for it to happen and be willing to go that extra mile—even when you’re not sure if it’s getting you anywhere. Ultimately, the payoff will come.” ☺

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GERIATRIC EDUCATION IN U.S. SCHOOLS OF PHARMACY: A SNAPSHOT

Arjun P. Dutta
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Objective: The objective of this study was to assess the structure, resources, and activities of academic geriatrics courses in U.S. pharmacy schools.

Design: A cross-sectional study.

Participants: Schools of pharmacy in the United States identified through the American Association of Colleges of Pharmacy (AACP). The survey was e-mailed (May 2003) to the academic chairs of the clinical pharmacy department and/or the head of geriatric pharmacy practice at each of the 84 schools of pharmacy in the United States.

Measures: The primary measure was to assess the nature and extent of geriatrics course content in the responding schools. In addition, we elicited information on the type of geriatrics material taught, faculty involvement, student population, type of school, academic requirements, and experiential education. The questionnaire items were based on the current course content in geriatrics courses taught at the institution. "Content" validity of the questionnaire was assessed by administering the survey to three survey experts (including one in geriatrics); their suggestions were incorporated in redesigning the questionnaire.

Results: A total of 42 (50%) out of 84 schools responded. All responding schools had some form of geriatric education incorporated into their curriculum. However, the depth and breadth of the geriatric curriculum reported by the responding schools did not seem to be that different from results obtained by a 1985-1986 survey.

Conclusion: Geriatric education in pharmacy schools has not increased proportionally with the expected increase in the geriatric population in the United States. Schools of pharmacy should make geriatric education a priority because the majority of patients whom pharmacists need to monitor or counsel currently are, and will continue to be, 65 years and older. Compared with a past study, the focus of current geriatrics education in pharmacy schools does not seem to have improved much despite the increasing need for geriatric practitioners and drug misadventures in the elderly.

Key words: Curriculum, Geriatrics, Pharmacy education.

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INTRODUCTION

At the turn of the 21st century, American society has begun debating whether or not demography is destiny.¹ The United States is fast approaching the "zero hour" when the "baby-boomer" generation begins to retire.¹ In 2002, more than 35 million people were age 65 and older (defined as the geriatric population), and 23% of them reported poor or fair health.¹ Older people tend to have higher rates of chronic diseases, use more health services than the general population, and typically are the major users of prescription and nonprescription drugs.²

Many studies have confirmed these findings.³⁻⁵ Secondary dataset analyses evaluating medication use in the population age 65 and older, in four different cohorts, estimated that 60% to 68% of men and 68% to 78% of women in this age group used prescription medications; 52% to 68% of men and 64% to 76% of women reported using nonprescription medications.³ Furthermore, a recent survey examining patterns of medication use in an ambulatory adult population in the United States reported that women over the age of 65 had the highest prevalence of medication use in the sample population: 12% of them took at least 10 medications.⁴

Another survey of individuals aged 65 and older examining the use of prescription medications found that 71% of this population reported regularly using one prescription medication.⁵ These facts automatically place an onus on pharmacists to have requisite geriatrics experience/training to meet the med-

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ication needs of this growing population of health care seekers.

The elderly also use about 40% of all nonprescription drugs and approximately the same percentage of sedative and hypnotic drugs.² Unfortunately, a good deal of drug use among older persons is inappropriate.^{2,6} This invariably results in adverse drug reactions (ADRs) accompanied by serious human and financial loss.² It has been estimated that more than nine million ADRs occur each year among older Americans (26% of the total reported ADRs).² More than 200,000 older adults are hospitalized annually because of ADRs or because of an ADR experience during hospitalization.²

A recent report issued by the United States Pharmacopoeia reported that 55% of all fatal hospital medication errors involved seniors.⁶ Of all the medication errors, nearly 10% were prescription errors and about 43% were “omission” errors, such as improper dose or quantity errors.⁶ For these reasons and more, a well-informed pharmacist is an important “care of the elderly” team member and an educational resource for drug-related issues to physicians, health professionals, caregivers, and the elderly themselves.⁷

The Alliance for Aging Research (AAR) reported that of approximately 200,000 U.S. pharmacists, only 720 reported having geriatric certification.⁸ According to the study by Kovner and colleagues, the number of people trained to provide geriatric health care is far below the actual number needed, and this disparity is expected to increase

in the future.¹ Certainly, not every elderly consumer needs a pharmacist certified in geriatrics, but every elderly adult does need a health care provider who either has some geriatric education and/or training or at least access to a health care professional with geriatric training.¹ Health care providers need to have access by phone, in person, and via e-mail to a pharmacist certified in geriatrics, a geriatrician, and/or a geriatric nurse practitioner.¹ Geriatricians, internists, and family practitioners often rely on a pharmacist’s expertise when prescribing for their elderly patients.⁷ A pharmacist’s recommendations and assistance for appropriate drug therapy, patient education, drug histories, and surveillance for ADRs are highly regarded and needed.⁷ Pharmacists also have been shown to have an important contribution towards medical student education in geriatrics.¹⁰ However, the training of pharmacists with respect to the health requirements of the elderly needs to be assessed as well.² This is more important given the rising expectations within the profession about the role of clinical pharmacists in counseling high-risk older adults. AAR reported that pharmacists were not prepared or were inadequately prepared by their formal education about geriatric pharmacy.⁹ Part of this problem may lie in the fact that a school or college of pharmacy’s efforts to incorporate geriatrics into their curriculum is hindered by the paucity of available faculty with adequate geriatric expertise and the difficulty in funding new clinical pharmacy services.¹¹

Courses in geriatrics are not common in most health professional schools, including pharmacy and medicine.¹¹⁻¹⁴ A 1998 Association of American Medical Colleges (AAMC) report summarizing the Liaison Committee on Medical Education Curriculum data found that required geriatric medicine courses remained rare, although 98% of medical schools reported some form of required geriatric medicine experience.¹³ In 1998 and 1999, more than 40% of all allopathic medical students reported that the time devoted to their medical schools' geriatric medicine curriculum was inadequate.^{13,14} The state of geriatric education in medical schools seemed to be reflected in pharmacy curricula as well. A study done in 1986 revealed that only nine schools out of 72 (13%) offered a required course focused primarily on geriatrics.¹¹ However, of all the schools that responded, 53 (74%) reported that their students were exposed to a range of 5 to 15 hours of geriatric course content as a part of the clinical pharmacy courses.¹¹ Since the publication of this study, pharmacy schools have undergone several curriculum changes. Thus, the objective of this study was to determine whether geriatrics education has received its long overdue recognition in pharmacy curricula across schools in the United States.

In addition, given the complex nature of the problems that geriatric patients face, it is of vital importance to assess the current state of geriatric curriculum/course content in U.S. pharmacy schools. There is some evidence that the care provided to older adults by pharmacists and

health care professionals trained in geriatric education improves outcomes, such as better physical, functional, and psychosocial status, as well as improved drug compliance—without an increase in cost.¹² As such, it seems of paramount importance to document the scope of geriatric pharmacy education. Therefore, this study was intended to assess the structure, resources, and activities of academic geriatric course content in pharmacy schools. In addition, the study identified innovative teaching and learning initiatives implemented in various schools.

METHODS

The study used a cross-sectional survey design to elicit information about geriatrics course curricula in pharmacy schools. A total of 84 accredited (or in the process of accreditation) pharmacy schools were identified via the AACP's Web site (www.aacp.org). A 25-item, self-administered questionnaire was developed to assess the nature and extent of geriatrics course content in the responding schools (see Appendix, page 52). In addition, we elicited information on the type of material taught, faculty involved, student population, type of school, academic requirements, and experiential education in geriatrics. The questionnaire items were based on the current course content in the geriatrics course taught at the institution. We assessed "content" validity of the questionnaire by administering the survey to three survey experts (including one in geriatrics), and incorporated their suggestions in redesigning the questionnaire.

The respondents also were requested to comment on any innovative teaching practices that they had initiated at their institution. The survey was e-mailed in May 2003 to the academic chairs of the clinical pharmacy department and/or the head of geriatric pharmacy practice at each of the schools of pharmacy. The survey was posted at a Web site (see Appendix), and was available only to the respondents (protected via password) for a period of two months. After that time, the nonresponsive schools again were e-mailed and encouraged to access the link and respond to the survey. Three months following the initial survey request, responses were analyzed using descriptive statistics.

RESULTS

A total of 42 out of the 84 schools of pharmacy in the United States responded to the e-mailed surveys, a response rate of 50%. Among those responding, 11 (25%) were private institutions. Among the schools responding, all 42 (100% of responding schools) schools indicated that they offered some type of course material in geriatrics. Six out of the 42 (14%) schools offered geriatrics as a mandatory course as a part of their PharmD curriculum. Sixteen (38%) schools had geriatric course material integrated within another required course, and 13 (31%) schools offered it as an elective course. The remaining schools reported teaching specific geriatric course contents in different practice settings. Only one school out of the 42 actually had a geriatric course pathway, a specialization track in geriatric pharmacy practice.

Schools of pharmacy reported offering geriatric courses (on an average) for the past seven years, either as electives or integrated within core courses. Schools also reported devoting an average of two credit hours on geriatric course material. Class lectures in geriatric education appeared to be the preferred form of instruction (33%), followed by discussion groups (18%) and case studies (16%). Examinations (37%) were the primary form of academic assessment used by most schools. Other academic requirements included reading (19%), case presentations (9%), and submission of term papers (8%). Table 1 delineates the predominant geriatric course content areas that are taught at the responding schools of pharmacy that offered a geriatric course, either as an elective or a required course, as well as the percentage of schools that reported teaching each topic. In addition to the areas shown in Table 1, the following topics also were taught at some schools:

- Thyroid disease in the elderly
- Dermatology and the elderly
- Dementia
- Parkinson's disease
- Pain death/dying and hospice care
- AIDS in older patients
- Oncology drugs in the elderly
- Anti-aging and natural product use in the elderly
- Pressure ulcers
- Tube feeding and long-term care

These topics are not delineated in the table because very few schools individually reported offering these topics. Eighty percent of the responding schools of

TABLE 1. GERIATRIC COURSE CONTENT TAUGHT AT U.S. SCHOOLS OF PHARMACY (N = 42)

Content Area	No. of Schools (%)
Pharmacokinetic and pharmacodynamic considerations in the elderly; adverse drug events	26 (62)
Drug use in the elderly	27 (64)
Demographics of aging	24 (57)
Aging organ system	23 (55)
Osteoporosis in the elderly	22 (52)
Genito-urinary disorders	19 (45)
Nutritional disorders	17 (40)
Arthritis, ischemic heart disease, cardiovascular disease in the elderly	16 (38)
Hypertension, arthritis in the elderly	15 (36)
Asthma and chronic obstructive pulmonary disease	12 (29)

pharmacy had no required text for the geriatric course, but used lecture materials and case reports.

Geriatric lectures were taught primarily by instructors holding a PharmD degree (40%) followed by those holding a PhD (23%). Approximately 6% and 5% of faculty teaching geriatrics had a master's and a bachelor's degree in pharmacy, respectively. Of the faculty members responsible for teaching the geriatric course in the responding schools of pharmacy, 57% reported having postgraduate training in geriatrics: 32% were board-certified geriatric practitioners. A total of 39 out of 42 schools offered some type of professional practice clerkship in geriatrics and/or long-term care. Fifty-four percent of the schools of pharmacy reported having an elective clerkship, and only 6% (3 out of 42 schools) had a required clerkship in

geriatrics. Seventy-one percent of the responding schools of pharmacy did not offer any residency or fellowships with focus in geriatrics/long term care.

DISCUSSION

This survey of academic geriatric curricula in U.S. pharmacy schools illustrates the lack of uniform and standardized geriatric education available to pharmacy students. The structure of geriatric education varied significantly from school to school, with some commonalities. However, for schools that offered geriatric education as a part of another course, it was difficult to assess the full impact of such training on students' overall understanding and importance of the subject matter. The fact that only 7% of the responding schools had a required course in geriatrics (with an average of

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two credit hours) shows the relative lack of importance of geriatric education in the overall pharmacy curriculum. While no specific requirement is mandated, the need to incorporate geriatric courses into the pharmacy education curricula definitely is recognized and encouraged by standards established by the American Council on Pharmaceutical Education (<http://www.acpe-accredit.org/standards/standards1.asp#3>).

Comparing our results with the previous study conducted in 1986,¹¹ it seems that the focus of geriatric education in pharmacy is regressive rather than progressive. However, since we cannot compare the responding schools from our survey with the Pratt survey,¹¹ it is difficult to determine which schools have improved their geriatric curriculum. Moreover, because our response rate was only 50%, we may have missed additional responses from schools that have a more structured geriatric course content. Nevertheless, it was heartening to see that of the schools that responded, all of them (100%) reported some type of geriatric course incorporated in the curriculum. This was an improvement from the Pratt study, which reported only 74% of schools teaching some aspect of geriatric pharmacy. The next step is to make geriatrics a part of mainstream pharmacy education.

In comparison, dental and medical schools seem to have realized the necessity of increasing their geriatric focus. As noted by a recent study¹⁵ of U.S. dental schools, 98% of schools had curricula that contained required didactic material on geriatrics. Sixty-seven percent of den-

tal schools reported having a clinical component to geriatric dental teaching. Thirty percent of dental schools reported a specific geriatric dentistry clinic within the school, and 11% had a remote clinical site.¹⁵ More than one-third of dental schools indicated that they plan to extend the teaching of geriatric dentistry in the future.¹⁵ Similar strides have been noted by medical schools as well. A recent study by Washaw et al. of U.S. allopathic and osteopathic schools of medicine (84% response rate) revealed that 87% schools had an identifiable academic geriatric program structure.¹⁶ According to the authors of the study, most medical schools have an identifiable academic geriatric medicine program, many of which have been established within the last 15 years.¹⁶ Pharmacy needs to make such strides toward including and fortifying their geriatric course offerings. Given the demand and need of practitioners trained in geriatrics, it is imperative that schools improve their focus on geriatrics.

LIMITATIONS

Although all possible attempts were made to increase the response rate, only 50% of the schools responded. The focus of the study was to obtain a cross-sectional view of the level of geriatric education in pharmacy schools because efforts to increase the geriatric curricula may have gone unreported. Academic programs are always changing, and our report describes the status of geriatric medicine programs as of the spring of 2003.

Our low response rate also may be a result of two mitigating factors: sending

one reminder/follow-up to the actual survey during the summer semester, which contributed to the low response, and the inherent limitations of self-reporting for any survey research. Future surveys in the same area are needed to obtain a longitudinal view of academic geriatric education. These surveys may include comparison of the results by geographic area to determine regional differences, the amount of time devoted to different geriatric topics, and the reference materials used for such courses.

CONCLUSION

In summary, we note that all responding schools (50% of the total surveyed) indicated that they were offering some type of geriatric course material, although the structure of the course varied. This is definitely a harbinger of

good tidings in terms of the recognition of the need for geriatric material to be offered. However, the frequency of the predominant geriatric topics that were being taught seemed to be low, given the importance of such topics in the burgeoning geriatric population in the United States. Pharmacy schools need to pay more attention toward increasing the offering of pertinent topics in their geriatric curricula.

It also seems clear that some form of geriatric education should be required in pharmacy school curricula given the increasing need of the geriatric population in the United States. It also seems an opportune time for pharmacists to create a niche for themselves in this evolving health care environment by providing newer services to meet consumer demand.

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APPENDIX (SURVEY QUESTIONNAIRE)

www.stargazer.net (Login required)
 (http://www.stargazernet.net/starsurvey/index.jhtml)

Demographics

1. Name of school: _____
2. City, state: _____
3. The institution is: Public Private
4. Name and position of the faculty representative answering the survey: _____

- Dermatology and the elderly
- Thyroid diseases in the elderly
- Asthma and COPD in the elderly
- Osteoporosis in the elderly
- Arthritis in the elderly

14. Is there a required text for the course? Yes No
15. If yes, what is the name of the textbook?

Course Content

5. Does your school offer any course material/content in geriatrics? Yes No
6. If yes, is the material that is offered a:
 Required Elective Integrated with another course
 Other, please explain
7. What is the name of the geriatric course offered? If the course is integrated within another course, skip to question 18.

8. How long has the geriatric specific course been offered?

9. How many students are enrolled?

10. How many credit hours is the course?

11. What is the predominant teaching and learning method offered in the geriatric-specific course?
 Lecture Discussions Cases Presentation
 PBL Other
12. What are the academic requirements for the geriatric-specific course?
 Exams Presentations Required reading
 Term papers

16. What is the total number of faculty members involved in the geriatric course at your school?

17. What is the highest level of education of the faculty who teach the geriatric course (check all that apply)?
 PhD PharmD BS in Pharmacy Masters
 Other
18. Does the faculty who teach the geriatric-specific course have any postgraduate training in geriatrics?
 Yes No
19. Have the faculty completed any of the following training/certification in the area of geriatrics? (check all that apply)
 Residency Fellowship
 Certified Geriatric Practitioner Other

Professional Practice Experience

20. Does your school offer any professional practice clerkship in geriatric and/or long-term care?
 Yes No
21. If yes, is the clerkship?
 Elective Required Both None Other
 (please explain)

22. Does your school offer any of the following (check all that apply)?
 Residency with focus in geriatrics/Long-term care
 Fellowship with focus in geriatrics/Long-term care
 None

23. Please use this space for additional comments.

24. Check yes if you wish to obtain data on the completed survey. Yes No

Thank you.

SENIOR CARE CLERKSHIP: AN INNOVATIVE COLLABORATION OF PHARMACEUTICAL CARE AND LEARNING

Annie Lam

Objective: To describe an advanced senior care practice experience (clerkship) that provides geriatric specialty training and outreach services.

Setting: Assisted living facility (ALF) and an adjoining medical clinic.

Practice Description: This report describes an experiential training program for doctor of pharmacy students taking place in a multidisciplinary setting involving a multiethnic population.

Practice Innovation: Students participate in activities in three settings—ALF, community, and ambulatory clinic. In the ALF, students conduct medication regimen review and provide recommendations in medication therapy, administer influenza vaccinations, and participate in staff education. Clinic-based training includes anticoagulation, asthma, and diabetes management. Community outreach activities include hypertension monitoring, brown-bag medication reviews, and home visits.

Main Outcome Measurements: Documentation of students' participation and pharmaceutical care activities included the number of letters, and the number and types of medication recommendations sent to the providers, the providers' response to these recommendations, the changes in immunization rates, and number of older adults who received care from the students.

Results: Twenty-four students completed the clerkship over three years. They sent 154 letters to 50 physicians with 287 recommendations involving the care of 118 ALF residents and improved the average annual vaccination rate in the ALF to 68%, compared with zero before student involvement. In the clinic, students provided services to 125 patients under a preceptor's supervision during a 30-month period. In the community setting, a weekly average of 35 elders participated in student-conducted pharmaceutical activities.

Conclusion: Overall, the clerkship was a successful collaboration of learning and provision of care. The students were successful in improving the medication therapy of senior adults in the three settings.

Key words: Clerkship, Geriatric specialty training, Pharmaceutical care, Practice experience, Senior care.

Abbreviations: ALF = assisted living facility.

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INTRODUCTION

Older adults are more likely than younger individuals to have multiple chronic conditions, leading to higher consumption of prescription and over-the-counter (OTC) medications.¹ The goals of medication therapy for the older adults are often undermined by problems related to medication use. Medication safety issues related to polypharmacy and unwanted adverse drug events in this growing population are prevalent in all settings: ambulatory,^{2,3} hospital,⁴ and long-term care institutions.^{5,6} Pharmacists can play a vital role in preventing medication-related problems and optimizing medication therapy for older patients.^{7,8} Therefore, it is important for pharmacy students to obtain knowledge in geriatric pharmacotherapy and develop skills to provide in-depth assessment of medication therapy—including identifying and resolving medication-related problems—and providing pharmaceutical care. This article describes a geriatric-focused, advanced experiential-practice experience (clerkship) that provides unique opportunities in both learning and provision of care.

The University of Washington School of Pharmacy (UWSOP) initiated a geriatric practicum in a nursing facility to provide focused training in geriatrics in 1973. The Certificate Program in Geriatric Pharmacy Practice subsequently was established in 1986. Students enrolled in this program are required to fulfill senior care clerkship requirements in addition to specific didactic/seminar courses. UWSOP students, under faculty preceptorship, provide consultation at clerkship sites located in a variety of settings: skilled-nursing facilities, a continuing-

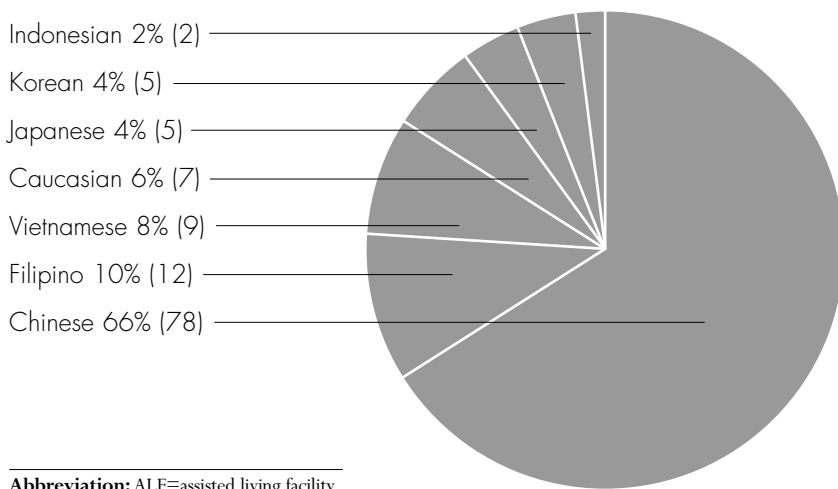
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FIGURE 1. DEMOGRAPHICS OF ALF RESIDENTS (N = 118)



Abbreviation: ALF=assisted living facility.

care retirement community (CCRC), ambulatory pharmacies and clinics, and an acute care hospital. In 1998, a senior-care clerkship was established in an ALF that serves low-income, multi-ethnic Asian elders in Seattle’s International district. A faculty member, serving as the preceptor, has been facilitating student training on-site full-time and providing pharmaceutical care to ALF residents. In 2000, this clerkship site was formally named as the UWSOP Consulting Service and Outreach Center in recognition of the many community outreach activities established at this location.

OBJECTIVES

The overall goal of the UWSOP senior-care clerkship is to provide experiential training in geriatric pharmacy practice to final-year doctor of pharmacy (PharmD) candidates. Specific learning objectives include:

- Learning consulting pharmacy skills with a focus on assessing medication therapy and treatment outcome
- Identifying and/or resolving medication-related problems
- Acquiring clinical skills in functional assessment and medication management
- Applying medication-treatment guidelines and becoming familiar with new advances in geriatric pharmacotherapy

Performance objectives include providing pharmaceutical care in a multidisciplinary setting, documenting and assessing the outcome of pharmacists’ interventions, and providing drug therapy education to other health care providers.

SETTING

The ALF is a unique site that provides a multiethnic environment while offering experiential training in both the long-term care institutional setting and the community ambulatory setting to PharmD students. With the exception of a few Caucasian residents, most of the clients at this site are indigent senior adults of Asian ethnicities, including Chinese, Filipino, Vietnamese, Korean, Japanese, Cambodian, and Indonesian (see Figure 1). The majority of these elders cannot speak English. Many are also illiterate in their native tongue, often making written communication impossible and having an interpreter present necessary. A community pharmacy supplies medications to the residents in the ALF, and a staff nurse coordinates medication administration to the residents. When cognitively able, the residents can request to self-manage their medications.

In addition to providing assisted-living services to 54 residents, the ALF also operates an on-site senior-adult day health program and an off-site low-cost luncheon program. The multiple ethnicities of the residents, the variety of services offered by the facility, and the complex health issues and medication therapy of the clients provide enriched learning opportunities for the students. The UWSOP Senior Care Clerkship faculty and students provide medication consultation services both to the facility, staff, and residents at the ALF and participate in the outreach activities in the off-site program. In 1999, the University of Washington faculty obtained prescriptive authority in anticoagulation management granted by the providers in an adjacent clinic, thus further expanding the clinical training opportunities for students.

PRACTICE DESCRIPTION

This site offers advanced geriatric practice experiences to all the UWSOP students during their final year of study, with priority placement offered to the students who are enrolled in the Geriatric Certificate Program. The clerkship is available from October to April and provides 160 or 168 training hours, depending on full- or part-time assignment. The full-time clerkship lasts four weeks (five, eight-hour days, weekly), and the part-time clerkship runs over eight weeks (three, seven-hour days, weekly). Students receive training in three practice settings: ALF-based, clinic-based, and community-based. The students spend an average of 30% of the time at the clinic, 15% at the communi-

ty-based site, and 55% at the ALF.

At the ALF, the students learn consulting pharmacy skills. Each student provides pharmaceutical care and monitors the medication therapy of at least six assigned residents (cases) during the clerkship duration. All assigned cases are presented in formal oral presentations once or twice a week, and the students are required to complete two written case study reports. For training in formal teaching, each student is required to deliver at least one well-researched in-service education session to the staff, clients/residents, and other rotation students.

At the clinic and community-based sites, students work directly with patients to develop clinical skills in anticoagulation management, diabetes/asthma education, blood pressure measurement, medication assessment, and patient counseling.

Student performance is evaluated based on the following categories: knowledge base, learning and application, communication skills, problem-solving and decision-making skills, and professional conduct. The evaluation process is ongoing. Students receive advice and feedback from the preceptor on a daily basis while performing learning activities and case discussions. Each student also receives a formal midclerkship evaluation and a final evaluation. These formal evaluation reports are filed as part of the student's academic record.

PRACTICE INNOVATION

In all settings, student activities are under the supervision of the preceptor. Student activities and care documentation are categorized as follows:

TABLE 1: NUMBERS OF RECOMMENDATIONS ACCEPTED BY PHYSICIANS

Types of Recommendation	Recommendations Sent		Recommendations Accepted	
	Number (n ₁)	Percent (n ₁ /N ₁)	Number (n ₂)	Percent (n ₂ /N ₂)
Drug-Use Related	229	79.8	146	78.9
Drug Addition	87	30.3	64	34.6
Dose Change	69	24.0	42	22.7
Discontinue Drug	46	16.0	26	14.1
Therapeutic Switch	18	6.3	7	3.8
Change Dose Interval	9	3.1	7	3.8
Therapeutic Monitoring	43	15.0	25	13.5
Non-Drug-Related	12	4.2	13	7.0
Other Referrals	3	1.0	1	<1
TOTAL	287 (N ₁)	100	185 (N ₂)	100

IN THE ALF

The students' daily activities at the ALF include:

- Performing medication assessment by reviewing charts (medication administration records, client medical charts, and nursing notes)
- Contacting pharmacies and physicians for missing information
- Interviewing consenting residents in their apartments to obtain information on health and medication history (including OTC and herbal products)

Under the supervision of the preceptor, students develop skills in performing simple physical examinations during the visits with the residents. Such skills include blood glucose testing, blood pressure and pulse measurements,

assessments of orthostatic hypotension, identification of signs and symptoms of congestive heart failure, movement disorder (e.g., tremor, dyskinesia), and administration of cognitive/mood function tests (such as the Mini-Mental Status Examination and the Yesavage Geriatric Depression Scale, Short Form).

The students participate in weekly oral case discussion sessions. Together with the preceptor and other students, they assess medication therapy, identify medication-related problems, and formulate care plans with recommendations to modify or improve medication therapy. Students then write letters to physicians, reporting their findings and recommendations, and document responses from the physicians and track the outcome of their recommendations on drug therapy. To gain exposure to interdisciplinary care planning, the students participate in weekly interdisciplinary meetings with nurses/aides, case managers, social workers, and physical/occupational therapists. The students also conduct monthly staff in-service teaching sessions. Annually, in late September and early October, the students assist the preceptor in organizing influenza vaccinations to consenting clients/residents.

IN THE CLINIC SETTING

Student activities include reviewing patient charts, providing anticoagulation education, performing point-of-care prothrombin time and international normalized ratio (PT/INR) testing, adjusting warfarin doses upon consultation with

the preceptor, and documenting interventions in patients' charts. The students also conduct asthma and diabetes education; sometimes with the help of language interpreters; educate patients how to use peak flow meters, metered-dose inhalers, and blood glucose monitors; and review diabetes medications and assess blood glucose control.

IN THE COMMUNITY SETTING

Community-based student activities include:

- Conducting weekly blood pressure measurements and brown-bag medication reviews at a community site
- Making quarterly home visitations to perform medication and nutritional reviews of homebound older adults in Seattle's International district

OUTCOME MEASUREMENT AND RESULTS

The documented outcomes of the student activities are as follows:

IN THE ALF

During the three years of the clerkship, 24 students sent 154 letters to 50 physicians, with 287 recommendations involving the care of 118 ALF residents. As shown in Table 1, recommendations were categorized into the following:

- Drug-use related
- Therapeutic monitoring (need to monitor drug levels or order lab tests)
- Referrals to other services (occupational/physical therapy and mental health counseling)
- Nondrug recommendations (need for lifestyle/nutritional monitoring,

use of ambulating devices, etc.)

The drug-use-related category is further classified into the following:

- Addition of drug (no therapy for a condition)
- Dose change needed (wrong dose)
- Discontinuation of drug (duplication of therapy, therapy without diagnosis)
- Therapeutic/drug switch indicated (lack of efficacy, potentially inappropriate medications)^{9,10}
- Dosing interval change needed (inappropriate dosing interval)

Table 1 shows that out of the 287 recommendations sent to prescribers, 185 (64.5 %) were accepted, 81 (28.2%) were declined, and 18 (6.3 %) with no response. The annual average vaccination rate in the ALF over the three years was 68% (compared with no prior in-house vaccination service or documentation of vaccination rate), though some residents would have received influenza vaccination at doctor's offices.

IN THE CLINIC SETTING

During a 30-month period, a total of 125 patients in the clinic participated in the three student- and faculty-provided activities. Thirty-eight patients received care in the ongoing anticoagulation management program, 50 patients participated in diabetes education activities, and 35 patients enrolled in the asthma education program.

IN THE COMMUNITY SETTING

A weekly average of 35 elders participated in the community-based activities. On average, three senior adults received a medication consultation every week.

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DISCUSSION

During the first three years, 24 students completed the clerkship. Though there are reports of PharmD students participating in clinical interventions concerning patient care in clerkship sites such as hospitals, outpatient clinics, and community pharmacies,¹¹⁻¹⁴ these sites often offer learning experiences confined to one particular practice setting. The clerkship site described in this article is unique in that it offers training and learning opportunities over a spectrum of care settings. Additionally, through their interaction with the multiethnic, Asian senior adult population at this site, the students gain rare cultural exposure. Not only do they have the opportunity to assess whether ethnic culture has an effect on medication use behavior, but they also learn to understand and accept the impact of cultural beliefs on patient behavior and adherence to medication therapy. This enhanced understanding enables the students to identify and implement culturally appropriate solutions to medication-related problems in an ethnically diverse elderly population. The students acquire skills in assessing complicated medication regimens, and in communicating with senior adults who suffer from hearing and sight impairment, they also gain exposure to communicating with the non-English-speaking senior adults and learn to overcome challenging language barriers by coordinating the use of available language interpretation service.

Although the overall physician acceptance rate of the student recommendations was only 64.5%, 78.9% of these

accepted recommendations fell within the drug-use category. This drug-use category acceptance rate is comparable to the average cited acceptance rates in different reports describing the impact of pharmacist recommendations on medication therapy. Physician acceptance of medication therapy recommendations given by PharmD students was reported at a rate as high as 99% in a hospital intensive care unit,¹⁵ 75.8% in a skilled nursing facility,¹⁶ and 60% in an indigent and homeless geriatric population.¹⁷ Further documentation and reports on physician acceptance of student recommendations on medication therapy similar to those conducted by the students in this clerkship will help reveal the impact of pharmacy student interventions on patient care in the assisted living setting.

CONCLUSION

The multisetting environment in this clerkship enriches student learning and exposure. The multiethnic and multicultural population offers students unique experiences, though some students find the language and communication barrier a formidable challenge. The students were successful in improving the medication therapy of senior adults through their participation in direct care provision at the medical clinic and the community site. In the ALF, student recommendations for changes in medication therapy were well accepted by providers, and they helped improve the annual in-house influenza vaccination rate. Overall, the clerkship represents a successful collaboration of care provision and learning.

UNRAVELING MULTIPLE COMPLAINTS IN AN 82-YEAR-OLD WOMAN

K. Michele Fountain
Jeffrey C. Delafuentes

With this issue, *The Consultant Pharmacist* begins a new series, Case Studies in Geriatric Pharmacotherapy. This column will present case studies in which the pharmacist identifies actual or potential patient medication-related problems, presents an evidence-based discussion of options, and develops a patient management plan. As part of this evaluation, the pharmacist consults with both the patient's physicians and family members.

Because older individuals generally consume a large number of medications, such a complex, multidisciplinary approach is critical to patient care and one that only pharmacists can provide. The growing consumption of both prescription and over-the-counter drugs by older adults increases the risk of medication-related problems. Pharmacists have an obligation to continually develop skills for identifying, treating, and preventing these medication-related problems.

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Comments regarding this series may be sent H. Edward Davidson, Editor-in-Chief, edavidson@inther.com.

An 82-year-old female living at home alone (Ms. L) and her daughter consulted a geriatric pharmacy specialist in a community pharmacy. Ms. L complained of worsening health and loss of appetite and reported high levels of anxiety and, at times, being "foggy-headed." She fell two months ago without injury while walking up the steps into her house. Our review of systems revealed Ms. L had difficulty swallowing, taste disturbances, dry mouth, drowsiness, rhinitis, and vision difficulties.

Before her current state, Ms. L was active and enjoyed baking, yard work, and some travel. Ms. L's current complaints began about three to four months ago after starting several new medications including calcitonin, olanzapine, and ipriflavone. More recently, megestrol and ipratropium nasal spray were added.

Ms. L has a past medical history of congestive heart failure, depression, anxiety, and osteoporosis. Significant in her history is previous chronic prednisone use about 10 years ago. Her current medications are listed in Table 1. She has no known drug allergies.

Ms. L weighs 99 lbs. following a five-pound weight loss over the previous two months and is 4' 9" tall. Ms. L has multiple medical providers including a psychiatrist, an endocrinologist, a cardiologist, and a primary care provider. Ms. L visited her primary care provider for the above complaints without resolution. Ms. L's daughter obtained some clinical lab data from the primary care physician and provided them on the initial pharmacist consult. Electrolytes

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were within normal limits and serum digoxin was 0.5 ng/mL.

MEDICATION-RELATED PROBLEMS OF HIGH PRIORITY

- Osteoporosis not optimally treated
- Taste disturbance
- Weight loss
- Dry mouth
- Vision difficulties
- Rhinitis

OSTEOPOROSIS NOT OPTIMALLY TREATED

Ms. L was started on nasal calcitonin and ipriflavone when she was diagnosed with osteoporosis approximately three to four months prior to consulting us. When reviewing Ms. L's drug regimen, one of our initial thoughts was why calcitonin and ipriflavone were initiated as first-line treatments for osteoporosis. Bisphosphonates, calcitonin, raloxifene, and teriparatide are approved by the Food and Drug Administration for the treatment of osteoporosis.¹ Although it is uncertain if Ms. L's osteoporosis was the result of chronic prednisone use, only bisphosphonates are indicated for the treatment of glucocorticoid-induced osteoporosis (GIO).¹ From questioning Ms. L and her daughter, Ms. L had no apparent contraindication to bisphosphonates. Although bisphosphonates should be avoided in patients with swallowing abnormalities, we felt Ms. L's swallowing problem was related to her dry mouth and not an esophageal abnormality. Calcitonin is not as effective as bisphosphonates for increasing bone-mineral density (BMD) and reducing fracture risk.² One primary study, the Prevent

Recurrence of Osteoporotic Fractures (PROOF) Study, revealed the benefit of calcitonin salmon nasal spray (200 IU QD) in reducing new vertebral fractures in postmenopausal women with osteoporosis.² However, the study did not reveal a significant benefit with the 100 IU or 400 IU doses and had a large dropout rate of 59%.² The lack of a calcitonin dose response has raised questions regarding its effectiveness.³

In contrast, bisphosphonates have much stronger evidence to support their use. Cummings et al. evaluated the four-year effects of alendronate on clinical and vertebral fractures in women with low BMD who had not previously had a vertebral fracture.⁴ Results indicated that alendronate statistically increased BMD at all sites evaluated including the hip and spine ($P < 0.001$) and reduced the risk of vertebral fractures.⁴ In addition, there was a statistically significant 36% reduction in the risk of clinical fractures in women with osteoporosis.⁴ Adverse events between the treatment and placebo groups were similar.⁴ Harris et al. evaluated the effects of risedronate on vertebral and nonvertebral fractures in 2,458 women with postmenopausal osteoporosis.⁵ Compared with placebo, risedronate significantly decreased the incidence of new vertebral fractures by 41% and nonvertebral fractures by 39% over three years.⁵ As with the previous study, adverse reactions were similar between the groups.⁵

In addition to nasal calcitonin, the endocrinologist concomitantly prescribed a nutraceutical, Ostivone (ipriflavone), for Ms. L's osteoporosis. Ipriflavone was

thought to aid in the treatment of osteoporosis because of effects seen in vitro and in rat studies. However, clinical evidence does not support its use. In a randomized controlled trial designed to investigate the effect of ipriflavone in the prevention of postmenopausal bone loss and assess the safety of long-term treatment of ipriflavone, 474 postmenopausal white women ages 45 to 75 years received either ipriflavone 200 mg PO TID or placebo, in addition to calcium, for four years.⁶ Ipriflavone did not prevent bone loss or affect biochemical markers of bone metabolism and in fact, caused lymphocytopenia in many women.⁶ Based on her laboratory values, Ms. L did not have lymphocytopenia.

Ms. L has had one reported fall. This was extremely important given that one in two women and one in four men over the age of 50 will have an osteoporosis-related fracture in their lifetime.¹ In addition, the one-year mortality rate in the elderly after hip fracture can be as high as 43%.¹ Therefore, it is very important that Ms. L is appropriately treated for osteoporosis.

Changing Ms. L's therapy was deemed a high priority because we believed it was impairing her quality of life, as described below. Because bisphosphonates are more effective than calcitonin and are indicated for GIO, we recommended discontinuing calcitonin and ipriflavone and initiating alendronate 70 mg each week. An alternative recommendation could have been risendronate, 35 mg weekly. Once-weekly bisphosphonate administration was an advantage over raloxifene in this patient.

All patients should receive at least 1,200 mg per day of calcium, including

TABLE 1. PRESCRIBED MEDICATIONS BY PHYSICIAN SPECIALTY

Drugs and Doses	Prescribing Physician
Furosemide 40 mg PO QD	Cardiologist
Digoxin 0.125 mg PO QD	Cardiologist
Potassium chloride 10 meq PO QD	Family Physician
Lisinopril 30 mg PO QD	Cardiologist
Aspirin 81 mg PO QD	Family Physician
Bupropion XL 150 mg PO QD	Psychiatrist
Olanzapine 2.5 mg PO QD	Psychiatrist
Calcitonin (salmon) 200 units/1 spray intranasally QD	Endocrinologist
Ipriflavone 200 mg PO TID	Endocrinologist
Megestrol 400 mg PO QD	Family Physician
Calcium 500 mg/vitamin D 200 IU PO BID	Endocrinologist
Ipratropium intranasal spray, 2 sprays/nostril BID	Family Physician

TABLE 2. SELECTED DRUG CLASSES WITH A POTENTIAL TO CAUSE TASTE DISTURBANCES^{8,9}

- Acetylcholinesterase inhibitors
- Angiotensin-converting enzyme inhibitors
- Angiotensin receptor blockers
- Antiepileptic drugs
- Antihistamines
- Calcium channel blockers
- Diuretics
- Fluoroquinolones
- Macrolides
- Nasal calcitonin
- Penicillamine
- Proton-pump inhibitors
- Selective-serotonin reuptake inhibitors
- Tricyclic antidepressants

diet and dietary supplements, and 400 IU to 800 IU per day of vitamin D for individuals at risk for deficiency.¹ Ms. L was not receiving the recommended amount of calcium and was advised to increase either her supplemental or dietary calcium intake.

TASTE DISTURBANCE

Ms. L had several adverse drug reactions that may have been linked to nasal calcitonin, including taste disturbance. When questioned, Ms. L stated that her loss of appetite and resulting weight loss were related to her taste disturbances. The nasal calcitonin product information lists taste perversion as occurring in less than 1% of patients.⁷ In addition, data on medication-induced taste disturbances are very limited. Table 2 is a partial list of drugs with potential for causing taste disturbances. Therefore, it is hard to determine exactly if nasal calcitonin was the cause of Ms. L's alteration in taste. By examining the time frame for when calcitonin was initiated and the alteration in taste began, it seems plausible that there is a cause-and-effect relationship. Ms. L also was initiated on ipriflavone with the calcitonin. Although there is a temporal relationship, we were unable to find supporting literature linking ipriflavone to taste alterations. Since Ms. L is experiencing adverse reactions to nasal calcitonin that require treatment, this further supported our recommendation to discontinue calcitonin and ipriflavone.

WEIGHT LOSS AND ANOREXIA

For her loss of appetite and weight loss, Ms. L was recently begun on megestrol 400 mg PO QD. There are many causes

of weight loss in older people, including cancer, alcoholism, inflammatory diseases, depression, and drugs. One concern we had was that her depression was not being adequately treated. A psychiatrist who was caring for Ms. L had been making frequent changes in her antidepressant regimens; without having access to her medical records, we were not able to make any valid assessment of the depression. Digoxin also was on the top of our list as a potential cause of weight loss. At the time of our initial consultation, we were presented with a recent digoxin-serum level, and it was an acceptable therapeutic level. Upon further questioning Ms. L, seemed disinterested in eating because of change in taste that had occurred.

DRY MOUTH

Several of Ms. L's complaints may have been related to olanzapine, including dry mouth and dysphagia.¹⁰ Olanzapine has many adverse drug reactions, including dry mouth, drowsiness, confusion, orthostatic hypotension, weight gain, increased appetite, thirst, interference with cognitive and motor performance, dizziness, and somnolence.¹⁰ Dry mouth is a significant adverse reaction and may have contributed to Ms. L's complaint of difficulty swallowing.¹⁰ Neither Ms. L nor her daughter knew the reason for taking olanzapine and were unsure if Ms. L was receiving a benefit from its use. Therefore, without recognized benefit and because of potential adverse reactions, we recommended that the patient contact the prescribing psychiatrist to determine if olanzapine could be discontinued.

VISION DIFFICULTIES

Ms. L complained of nonspecific vision problems over the past several months. The nasal calcitonin product information lists some effects on vision including abnormal lacrimation (1% to 3%), conjunctivitis (1% to 3%), and blurred vision (<1%) as possible adverse reactions to calcitonin; however, we were not certain if her complaints with vision could be directly linked to use of calcitonin.⁷ Ms. L stated that the complaints had not been extremely bothersome, but we were concerned that Ms. L may be at increased risk of falling and sustaining a fracture as a result of changes in her vision. Our recommendation was for Ms. L to be evaluated by her ophthalmologist.

RHINITIS

Ms. L states that she has had increases in nasal congestion and sneezing since starting therapy for osteoporosis. The PROOF study revealed a significant incidence of rhinitis defined as nasal congestion, nasal discharge, or sneezing among the nasal calcitonin group ($P < 0.01$).² Ms. L was being treated with ipratropium intranasal spray BID for her rhinitis. Ms. L should no longer require treatment of rhinitis after switching osteoporosis therapy from calcitonin to alendronate.

PHARMACIST'S RECOMMENDATIONS

After reviewing the case, we recommended several drug therapy changes including the discontinuation of calcitonin, ipriflavone, megestrol, ipratropium, and olanzapine. In addition, we recommended initiating alendronate 70 mg once weekly.

Our recommendations were communicated through Ms. L's daughter and by written recommendations that could be given to each provider. Ms. L's daughter was educated on each of the recommendations and encouraged to discuss the recommendations with her mother's multiple medical providers. Ms. L did not have one provider to monitor and coordinate all of her care. Often, it was months between appointments to her various specialists. When Ms. L had a complaint, she and her daughter would wait until the next scheduled appointment for that provider to express the problem. At times, Ms. L and her daughter would alter drug therapy and not consult a provider. Therefore, we also recommended that Ms. L find a geriatrician who would monitor all of her medical problems and drug therapies.¹¹

The role of the pharmacist for Ms. L and her daughter was very important and multifaceted. One of the most important roles of the pharmacist was that of educator. Ms. L and her daughter had several medications for which neither knew the indication prescribed nor the importance of adhering to the prescribed medication regimen. The pharmacist also served a valuable role as advocate, both for the patient and for the caregiver. Ms. L's daughter was desperate when she came to us. Her mother's health was declining and she didn't know what to do. By encouraging her to seek answers to her questions and in locating a geriatrician for her mother, Ms. L's daughter started to realize the impact she could have on improving her mother's health care. Because we did not

TAKE-HOME POINTS

Senior care pharmacists in community pharmacies are in an advantageous situation to identify potential drug-related problems and to make a significant difference in the lives of older people.

Older patients receiving multiple prescriptions from multiple prescribers are at risk of adverse outcomes from their medications. Such patients need one health care provider to assume responsibility for coordinating all drug therapies.

Pharmacists must be vigilant to identify adverse drug events that are being treated inappropriately with additional medication.

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have access to Ms L's medical records, we asked the caregiver to obtain the necessary data. When requested, Ms. L's daughter sought out information, including recent laboratory data, from her mother's medical providers to give us more needed information.

TWO MONTHS LATER

Upon following up with Ms. L two months later, she reported feeling much better, with improvements in most of her complaints. She had found a geriatrician, and all of our drug therapy recommendations were initiated. Her dry mouth and taste had improved, and she had gained three pounds. Her rhinitis had completely resolved. The ophthalmologist increased the power in her eyeglass lenses.

SUMMARY

This case has several important learning points. First of all, it can be very challenging dealing with patients' multiple medical providers. By not having one provider coordinating the patient's care, the patient may not have anyone reviewing all of his or her medical problems and medications. This is especially important for geriatric patients who often have multiple medical problems and are receiving many medications. For our patient, we recommended that she seek a geriatrician and to continue to have a pharmacist review her medications, especially when medications are changed or added.¹¹ We

made multiple recommendations to change medications. Generally, it is prudent to make only one therapy change at a time to determine its effect. In Ms L's case, she had too many serious drug-related problems to wait to solve them one at a time.

In addition, empowering the patient's caregiver, especially in this particular case, can increase the likelihood of achieving a successful outcome. Our patient's daughter realized her value and importance in ensuring that her mother received the best possible health care and became a better patient advocate for her mother. Many patients could benefit from this realization. Patients and their caregivers are often intimidated by their doctors and often don't ask questions or provide their health care providers with all the necessary information.

Finally, treating adverse drug reactions of one medication with another medication is not usually beneficial and can become a vicious cycle. In our patient's case, she was experiencing taste disturbances and rhinitis from the use of nasal calcitonin and was being treated with additional medications for these adverse drug reactions. This increased her total number of daily medications, of which several proved to be unnecessary. In addition, the unneeded medications had their own list of potential side effects and drug interactions that could have affected our patient.



POLICY CURRENTS

Critics Scrutinize FDA for Handling of Drug Approvals Since Vioxx Recall

Research has indicated that Merck & Co. knew about the potential for cardiovascular problems with rofecoxib (Vioxx) use and suppressed that information to ensure commercial prospects of the medication. Now the Food and Drug Administration (FDA) is being criticized for its postapproval monitoring.

Merck voluntarily withdrew the drug, a nonsteroidal anti-inflammatory drug (NSAID), from the market on September 30. The data-safety monitoring board overseeing a long-term study of the drug, known as Adenomatous Polyp Prevention on Vioxx trial (APPROVe), recommended that the study be halted because of an increased risk of serious cardiovascular events, including heart attacks and strokes. The study was being done in patients at risk of developing recurrent colon polyps.

According to a report in the *Wall Street Journal*, internal e-mails, marketing documents, and interviews with outside scientists questioning the safety of Vioxx indicate that Merck officials discussed the increased risks of cardiovascular events related to Vioxx. It proposed to design studies that would compare Vioxx to less expensive, older pain medications to make comparisons.

Moreover, a recent study published in the journal *The Lancet* showed the increased risk for cardiovascular events among patients who took Vioxx was evident by year 2000. The new study also found that participants who took Vioxx for only a few months had an increased risk for heart attack, compared with those who took placebos. Hence, the study concluded that Vioxx should have been withdrawn several years earlier.

The fact that *The Lancet* study shows that people who took Vioxx for only a few months had increased risk of heart attack also contradicts Merck's claim it made at the time it withdrew Vioxx from the market: company officials had said they found "no signs of heart problems among patients who took Vioxx for less than 18 months."

At the time that rofecoxib and COX-2 selective NSAIDs were approved, it was hoped that they would have a lower risk of gastrointestinal ulcers and bleeding than other NSAIDs (such as ibuprofen and naproxen). Rofecoxib was the only NSAID demonstrated to have a lower rate of these side effects.

Since the withdrawal of Vioxx from the market, FDA's oversight of the drug has been criticized. Senate Finance Committee Chair Chuck Grassley (R-Iowa) called upon Merck Chief Executive Officer Raymond Gilmartin and FDA Acting Commissioner Lester Crawford to testify on November 18 in a congressional hearing on the drug.

"FDA has a well-documented and long-standing commitment to openness and transparency in its review of marketed drugs," Crawford said. "Indeed, the postmarket review of Vioxx [and other drugs] were initiated and funded by FDA and managed by its Office of Drug Safety (ODS). That is evidence the system is working."

Crawford also noted that he recently had announced additional steps to strengthen the program in the form of a major initiative designed to improve the monitoring of drug products recently on the market. On November 5, Crawford announced these five

measures he authorized to better detect, assess, manage, and communicate the risks and benefits of prescription and over-the-counter medications:

1. Sponsor an Institute of Medicine study of the drug safety system
2. Implement a program for adjudicating differences of professional opinion
3. Appoint a director in the Office of Drug Safety to fill the current vacant position
4. Conduct drug safety/risk management consultations
5. Publish risk management guidances

Gilmartin testified before the Committee of Finance on November 18 for the Senate hearing on Vioxx, where he made these points:

- The FDA approved Vioxx only after Merck had extensively studied the medicine.
- Merck continued to study Vioxx extensively after it was approved for marketing to gain more clinical information about the medicine.
- Merck has promptly disclosed the results of numerous Merck-sponsored studies to the FDA, physicians, the scientific community, and the media, and participated in a balanced, scientific discussion of its risks and benefits.
- Until data from the APPROVe clinical trial became available in September, the combined data from randomized controlled clinical trials showed no difference in confirmed cardiovascular event rates between Vioxx and placebo and Vioxx and NSAIDs other than naproxen.
- While epidemiological studies have an important role to play, given

their inherent limitations, when both epidemiological studies and randomized controlled clinical trials are available, the randomized controlled clinical trials are the most persuasive evidence.

■ As soon as the data from the APPROVe study became available, Merck acted quickly to withdraw the medicine from the market.

Sandra Kweder, MD, deputy director in the FDA Office of New Drugs at the Center for Drug Evaluation and Research (CDER), also spoke at the Senate hearing.

“Experience has shown that the full magnitude of some potential risks do not always emerge during the mandatory clinical trials conducted before approval to evaluate these products for safety and effectiveness,” Kweder said. “Occasionally, serious adverse effects are identified after approval either in postmarketing clinical trials or through spontaneous reporting of adverse events. That is why Congress has supported and FDA has created a strong postmarket drug safety program designed to assess adverse events identified after approval for all of the medical products it regulates as a complement to the premarket safety reviews required for approval of prescription drugs in the United States.”

Kweder pointed out that all approved drugs pose some level of risk, such as the risks that are identified in clinical trials and listed on the product labeling. Unless a new drug’s demonstrated benefit outweighs its known risk for intended population, FDA will not approve the drug.

In his testimony, David Graham, MD, MPH, associate director for science in the Office of Drug Safety, indi-

cated that FDA has an inherent conflict of interest that triggers “heat” when safety questions emerge about products it has approved. He said FDA’s Office of New Drugs unrealistically maintains a drug is safe unless reviewers establish with 95% certainty that it is not. Graham told the Senate committee that this doesn’t protect consumers.

In his testimony, he also questioned whether these five drugs are safe:

■ Meridia (sibutramine hydrochloride monohydrate)—a weight-loss drug; Graham said the FDA should consider whether its benefits outweigh the risks of higher blood pressure and stroke among those taking it.

■ Crestor (rosuvastatin calcium)—an anti-cholesterol drug, because of the potential for renal failure and other side effects.

■ Accutane (isotretinoin)—an acne drug linked to birth defects, which represents a 20-year “regulatory failure” by the FDA, and sales should be restricted immediately.

■ Bextra (valdecoxib), a painkiller that poses the same heart attack and stroke risks as Vioxx; studies should be designed to examine the cardiovascular risks.

■ Serevent (salmeterol xinafoate), a treatment for asthma; the drug was shown with 90% certainty in a long-term trial in England, to cause deaths resulting from asthma.

The manufacturers of these drugs immediately defended the use and safety of their products.

“Dr. Graham’s congressional testimony does not reflect the views of the agency. The five specific drugs that Dr. Graham identified in his oral testimony are currently approved as safe and

effective for use in the United States,” said Steven Galson, MD, MPH, acting director of the CDER. “The FDA evaluates the safety and effectiveness of all drugs independently on a case-by-case basis before they are approved to enter the marketplace.” It also evaluates reported adverse events with all drugs already on the market to assess whether unforeseen safety concerns need to be addressed, he said. FDA takes all allegations of safety risks seriously and will “continue its longstanding practice of assessing the safety of all drugs using only sound science and peer-reviewed analysis and literature.”

Grassley told the hearing he believes an independent board of drug safety may be necessary to ensure the safety of medications after FDA approval. In a statement, Galson tried to “clarify some additional misperceptions that may have arisen” by pointing out that FDA’s ODS in the CDER is already an independent office separate from the Office of New Drugs, the office that reviews new drug applications. Both offices report directly to Galson as the director of the Center. “ODS has independent authority to perform its own research and does so every day.” However, Grassley maintains that there needs to be more separation between the two offices.

The senator also asked the Government Accountability of the Department of Health and Human Services to investigate whether FDA officials had improperly contacted a whistleblower’s group in an effort to discredit Graham.

Diana Duvall
Associate Editor



HELPFUL IDEAS

Working With Tomorrow's Professionals

Problem: The state university needs preceptors for pharmacy students. Pharmacists would like to help, but in the past, interns and externs were labor intensive and we are short staffed. How can pharmacists take students without exhausting their staff?

Solution: It sounds like pharmacists are willing to take students, but perhaps understandably wary. Students require an investment of time and create an additional objective—educating future practitioners—as well as providing care to patients. These goals can be antithetical or complementary, depending on the approach. With students present, training them becomes a priority and increases workload.¹

Schools of pharmacy are eager for experiential placements, and ironically, the very reason you cite as a barrier to taking students—staff shortages—is the reason your sites should consider this opportunity. In many cases, the number of clinical rotation sites limits student enrollment, so adding sites increases training slots and ultimately chips away at the staff shortage.² Kenneth Speranza, PhD, Associate Dean at the University of Connecticut School of Pharmacy, indicates that each of their 100 students requires nine month-long clinical rotations. That means they need to identify 900 months of preceptorship!

Providing an interesting clinical rotation site can be a recruitment tool; career planning frequently begins before matriculation.³ Students familiar



with the site's mission, philosophy, specialty, and culture are more likely to be attracted to a position. Additionally, preceptors are able to observe and shape students' work habits before hiring them and decide if they are acceptable.^{1,2} The few preceptors who surpass the normal requirements of supervision by actually mentoring promising students help create a network of professional contacts and support.^{3,4}

Hosting students is altruistic. It contributes to pharmacy's future and creates a learning organization.⁵ Students, with classroom exposure to cutting edge theories and applications, also challenge staff's own knowledge.

THE PAPERWORK

Hosting students is one job that should not be started until the paperwork is done. Schools should furnish a written contract or agreement to the site describing four things: expected outcomes,¹ liability, supervision, and evaluation.² The expected outcomes

(see Table 1) should be specific to the pharmacy practice and describe what the school wants students to learn. The liability section should cover things like safety, immunizations, health screening, and a roster of who will teach students the basic etiquette of the workplace (including confidentiality rules and universal precautions).¹ University lawyers review student placement contracts, but liability is often a matter of perspective. The site's legal counsel should also review these contracts. In this litigious society, pharmacy management doesn't want to be briefed on the fine print after an incident occurs.

The section of the agreement outlining student supervision should describe the kind of supervision that will be necessary based on students' training and experience. Since preceptors supervise actual practice, this section should clearly explain what students can or cannot do or how the preceptor will receive this informa-

TABLE 1. POSSIBLE OUTCOMES OF LONG-TERM CARE STUDENT TRAINING

- Comfort in the long-term care setting and pharmacy
- Understanding various methods and their limitations for interviewing long-term care residents
- Familiarity with medical terminology, procedures, and drugs used in the long-term care setting
- Understanding geriatric pharmacokinetics
- Experience with clinical cases that often fail to match textbook examples
- Experience in identifying residents at high risk for medication-related adverse events
- Improved interdisciplinary verbal and written communication skills one-on-one and in groups or meetings

Source: Adapted from Reference 3.

tion.⁴ Having a primary, secondary, and, if possible, a tertiary preceptor at the site ensures that students always have an accessible ear,⁶ especially during initial weeks when they often need over-the-shoulder observation. Preceptors, as role models and resource people,⁴ will find that sensible orientation and competency checklists ease students gradually into greater autonomy and more indirect supervision.^{2,3} The goal is to allow students a reasonable amount of independence.

Student evaluations should be based on performance expectations that are shared at the start of the rotation, and, at first, occur at least weekly. The frequency of interim evaluation can be decreased later unless the student is struggling. In that case, preceptors may consider increasing the frequency of evaluations or call the school contact for assistance. Regardless of the type of feedback given to students, it

should be kept direct and polite. Ask students to correct their own mistakes, ensuring that they understand if and why something is a problem.⁵ Correcting a mistake is only half the remedy; explaining its potential impact on patient care is the other half. Young professionals may not always see the larger issues.

STAFF SUPPORT

Student training programs will fail without extensive staff support. During the site's preliminary assessment of whether or not students will fit organizationally, talk to staff members and gauge their reactions. Some practicing pharmacists enjoy teaching and the intellectual stimulation students bring, and they should be considered for primary preceptor roles. Staff also likes to see students develop competencies, and appreciates that—toward the end of the rotation—many students will lessen the work-

load. Staff should understand, however, that all assignments given to students should be designed to teach and enlighten students, not redistribute repetitive or tedious work from regular staff.² Students should, however, be assigned their fair share of labor-intensive work.

Remind staff that today's students probably look significantly different than those who attended college when they did. Students may be older, more likely to be female, may be training for a second career, and have substantial complementary experience. The possibility of culture clash or generation gap is real and should be addressed in advance. The university should have briefed students on the importance of personal appearance, but be prepared to address the issue. Talk about contingency plans if conflict or misunderstandings occur.

EXCUSES, EXCUSES

Often, on-site staff will make excuses to avoid having students. They may say that patients dislike students (which is incorrect; older patients especially like students)⁵ or that students take too much time (but many excellent preceptors successfully direct students in 30 to 60 dedicated minutes daily).^{3,4} They may also indicate that students are poor communicators,⁵ but that's one reason why students need clinical rotations: to develop written and interpersonal skills. Concerning the complaint that students don't fit in: if preceptors take time to introduce students to the organization's staff, culture, norms, physical layout, and daily operations, students will feel more at home and function better.⁷

TABLE 2. PRINCIPLES OF ADULT LEARNING

Adults learn best when learning is:

- Perceived as relevant and based on the learner's perceived needs
- Based on or augments previous experiences
- Problem-focused
- Self-directed
- Applied immediately, if possible
- Uses cycles of action and reflection
- Is based on trust and respect

Source: References 7, 8.

THE LEARNING ENVIRONMENT

The quality-pundit Peter Drucker said, "We now accept the fact that learning is a lifelong process of keeping abreast of change. And the most pressing task is to teach people how to learn." Thus, preceptors need to enhance their knowledge of pharmacy with an understanding of pedagogy (the act, art, or process of imparting knowledge or skill). Today, most students respond well to self-directed learning. That is, they identify what they need to learn and their best learning methods (listening, reading, doing, or a combination). They also create learning goals, identify resources, take initiative to start and finish activities, and conduct self-evaluation.⁸ This removes the necessity of strict, inflexible lesson plans.

Preceptors also should remember that most students can be considered adult learners (see Table 2). Involve students by giving them an overview of what the site and preceptor have to offer, asking them to describe their past experience and what interests them most, mixing site assignment approaches, and asking them to

apply what they have learned.

Preceptors may find that hosting multiple students is easier than hosting just one. Then, peer support can enhance individual learning using collaborative techniques, particularly for case studies and utilization review.⁹ Preceptors can assign reading, ask students to prepare summaries, and then guide discussion of key points. Students also can work together or with regular staff members to create presentations, prepare posters, or prepare for a local health fair.

ENDNOTES

As students become interested in and competent to practice senior care pharmacy, preceptors and staff can be proud of their contributions. A student's final day can be a time for celebration and awards. Although students may think they can chalk up another rotation, don't let them walk away yet. Ask for feedback about the quality of their experience and the caliber of the preceptors so that the preceptor and the organization also can learn and improve.

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Views expressed in this article are those of the authors and not those of any government agency.

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CALENDAR

MARCH 2005

AMDA 2005 Annual Symposium

March 17-20, 2005

New Orleans, Louisiana

Contact: American Medical Directors Association, 10480 Little Patuxent Parkway, Suite 760, Columbia, MD 21044; 410-740-9743; 800-876-2632; Fax: 410-740-4572

APRIL 2005

APhA 2005 Annual Meeting

April 1-5, 2005

Orlando, Florida

Contact: American Pharmacists Association, 2215 Constitution Avenue, NW, Washington, DC 20037; 202-628-4410; Fax: 202-638-3793

ACCP Updates in Therapeutics and Research Forum

April 10-13, 2005

Myrtle Beach, South Carolina

Contact: American College of Clinical Pharmacy, 3101 Broadway, Suite 650, Kansas City, MO 64111; 816-531-2177; Fax: 816-531-4990

Calendar Postings

To share information about upcoming events, please send the sponsoring organization's name, telephone number, dates, and location of the event to Associate Editor, ASCP, 1321 Duke Street, Alexandria, VA 22314-3563; Fax 703-739-1500; e-mail info@ascp.com. Information should be sent three months in advance of the event.

MAY 2005

AGS 2005 Annual Scientific Meeting

May 11-15, 2005

Orlando, Florida

Contact: American Geriatrics Society, The Empire State Building, 350 Fifth Avenue, Suite 801, New York, NY 10118; 212-308-1414; Fax: 212-832-8646

CCGP Exam

May 14, 2005

(Registration Deadline March 11)

Los Angeles, California; Orlando, Florida;

Atlanta, Georgia; Chicago, Illinois;

Baltimore, Maryland; Albany, New York;

Philadelphia, Pennsylvania; Houston, Texas;

Seattle, Washington; Ontario, Canada

Contact: Commission for Certification in Geriatric Pharmacy, 1321 Duke Street, Alexandria, VA 22314; 703-535-3036; Fax 703-739-1500

CCGP Exam

May 15, 2005

(Registration Deadline March 11)

Orlando, Florida; Melbourne, Australia

Contact: Commission for Certification in Geriatric Pharmacy, 1321 Duke Street, Alexandria, VA 22314; 703-535-3036; Fax 703-739-1500

Geriatrics '05: ASCP's 27th Midyear Conference and Exhibition

May 16-18, 2005

Orlando, Florida

Contact: American Society of Consultant Pharmacists, 1321 Duke Street, Alexandria, VA 22314; 703-739-1300, ext. 113; Fax 703-739-1500 (www.ascp.com)

JULY 2005

AACP Annual Meeting

July 9-13, 2005

Cincinnati, Ohio

Contact: American Association of College of Pharmacy, 1426 Prince Street, Alexandria, VA 22314; 703-739-2330; Fax: 703-836-8982

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ASCP REPORTS

AMDA and ASCP Release Joint Position Statement on Beers List

The American Medical Directors Association and ASCP recently released a joint position statement on the Beers list of potentially Inappropriate Medications in Older Adults. The position statement, by Daniel Swagerty, MD, MPH, CMD, president of AMDA, and Ross Brickley, RPh, MBA, CGP, former ASCP president, was approved by the ASCP Board of Directors in November. The full text is as follows:

BACKGROUND

Publication of “Updating the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults”¹ again raises many of the same issues about the list’s development and uses—intended and unintentional—since its original publication in 1991 and subsequent 1997 revision.^{2,3}

The list was adopted nearly verbatim in the CMS surveyor guidance for Federal Tags F329 and 429, in effect codifying it with the power of federal regulation, although Dr. Beers himself has denied that this was ever the intention of publishing the list. AMDA and other stakeholders have previously questioned the wisdom of including any “checklist” of medications as part of regulations.^{4,5,6,7}

The 2003 update sought to improve the list by focusing on drugs and drug-disease combinations, in particular

1. addressing new products or product information,
2. changing severity ratings, and
3. Identifying new conditions.

The results: 11 medications/medication classes were eliminated, 4 were modified, 25 new medications/medication classes independent of

diagnoses and 19 medications/medication classes considering diagnoses were added as potentially inappropriate.¹

A serious reservation about the original list and its latest revision remains: the list is not based on an evidence-based methodology. Instead, the authors again reviewed the geriatric pharmacology literature to develop statements concerning clinical prescribing for older adults. Then a small panel of 12 experts reviewed these statements and rendered their opinions about the appropriateness of prescribing under the described clinical scenarios. They addressed whether a medication/medication class “should generally be avoided in persons 65 years or older because they are either ineffective or they pose unnecessarily high risk for older persons and a safer alternative is available”; and “medications that should not be used in older persons known to have specific medical conditions.”¹ There were no exceptions for palliative care or cases of severe chronic disease.

While this methodology offers useful general guidelines for inappropriate prescribing, its lack of a recognized evidence-based methodology limits its applicability.

While the list clearly addresses *potential* problematic prescribing for older adults and has been used constructively by many, persons without adequate clinical expertise may use the list inappropriately as an absolute prohibition against prescribing certain medications. Ironically, this approach can potentially cause errors that would undermine the intent of the surveyor guidance that includes the list.

ASCP AND AMDA BELIEVE:

■ The Beers list is a helpful general guide regarding potentially inappropriate medication use of medications for older adults, but it must be used in conjunction with a patient-centered care process.

■ Ultimately, decisions about medication prescribing must be clinically based and consider the patient’s total clinical picture, including the entire medication regimen, history of medication use, comorbidities, functional status, and prognosis.

■ Checklist approaches should not substitute for the necessary steps in the care process for appropriate prescribing.

■ The Beers list should be used as a general guide for assessing the potential inappropriateness of medications, not as an isolated justification for any recommendation, including discontinuation of a medication.

ASCP AND AMDA ENDORSE THE FOLLOWING PRINCIPLES FOR APPROPRIATE MEDICATION PRESCRIBING AND MANAGEMENT FOR OLDER ADULTS:

Decisions about prescriptions must be⁴:

1. evidence-based,
2. made in the context of the patient’s entire medical and psychosocial condition, prognosis, quality of life and patient’s or surrogate’s wishes,
3. made in conjunction with a qualified prescriber with first-person knowledge of the individual patient’s complete clinical profile and history; not withstanding emergency medical coverage,
4. made in the context that overuse,

under use and inappropriate use of medications are equally important quality of care concerns, and

5. made without improper use or disclosure of confidential, individual protected medical information that is not necessary for direct patient care.

In addition, medication management in older adults should include these steps⁵:

1. Identifying the presence and nature of the resident's symptom, disease, condition, impairment, or risk.

2. Assessing the resident to identify the cause of the problem, or document why an assessment was not performed.

3. Gathering and assessing information about the resident's current medications and treatments as well as responses and adverse reactions to previous medications and treatments.

4. Identifying and documenting the reason(s) why the disease, condition, symptom, or impairment needs to be treated or why it is decided not to provide treatment.

5. Choosing an appropriate medication or modifying an existing drug regimen.

6. Identifying and documenting the objective(s) of treatment.

7. Considering and documenting the benefits and risks of treatment.

8. Considering and documenting possible drug interactions.

9. Ordering the selected agent.

10. Ordering appropriate precautions in administering the drug, including instructions for resident monitoring.

11. Assessing and documenting the resident's status during or at the end of treatment.

12. Assessing the resident for possible adverse drug reactions (ADRs).

13. Modifying the medication regimen as indicated by its effectiveness or by the presence of complications.

In conclusion, practitioners who understand the principles underlying the proper prescribing and management of medications in nursing facilities should be better able to apply these principles in providing patient-centered care. Consultant pharmacists and medical directors should collaborate with facility staff to ensure appropriate interpretation and use of any guidelines on medication use, including those from the Centers for Medicare & Medicaid Services (CMS).

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Approved by the Board of Directors of the American Society of Consultant Pharmacists, November 2, 2004.