

RHO_{Px}CHI POST

A student-operated newsletter by the St. John's University Beta Delta chapter

RHOCHISTJ.ORG

SINGLE-LINE STORIES

- Revamped and ready to go—the Rho Chi Post editorial team restructures for the future
- Members of the 2011 Rho Chi executive board, Shannon and Mohamed, join the editorial team
- Community Pharmacy security now a major topic of discussion in New York
- Various science-related organizations to collaborate on “My Vascular Valentine” event on February 14
- The countdown begins—PharmD-only Doctoral Hooding Ceremony to be held on May 10

A MESSAGE FROM THE NEW RHO CHI PRESIDENT BY: YINING SHAO

Greetings fellow Rho Chi members and fellow Pharmacy candidates! In thinking about my presidency, the following comes to mind: “Leadership and learning are indispensable to each other.” This quote, first stated by John F. Kennedy, remains true today. To be a good leader is not to simply dictate, but rather to be malleable, adaptable, and humble enough to take dictation. Similarly, as fellow learners, we must be aware that learning is not about sitting in a classroom and hearing about a subject, but it is also taking what we have heard and putting it into play. As we move into the new year, I encourage everyone to keep this in mind.

I remember the day when I checked my email and viewed my acceptance into the Rho Chi Society. The application for a position on the executive board was also enclosed. Immediately, I thought, “why not? Get involved.”

Currently, as new ideas for our Rho Chi chapter are discussed in executive board meetings, I feel the excitement and energy, further encouraging my passion for Pharmacy. As I become more involved with my peers and patients, I expand my understanding of our profession. Personally, going from “never being on an executive board” to becoming “the person everyone goes to for answers” is a huge transition. I feel that it is necessary to approach this transition with the heart of a learner.

I have learned more during these past two weeks than I have ever in my years here at St John's University College of Pharmacy and Allied Health Professions. I would like to thank our past president, Mohammed Dungersi, for making this transition as smooth as possible. After handing me a truckload of papers, he explained to me, in detail, everything that I was required to do. I would also like to express my gratitude for the current members of the executive board for all of their dedication, help, and experience.

Recently, I had the privilege of attending the I-LEAD STJ workshop. Of the many things discussed at this workshop, the most memorable idea was the following: sit in the front seat of your life.

I have great expectations for this year. We are planning to continue traditional events, such as the Coffeehouse Chats, as well as provide new and exciting events that further the mission of Rho Chi and the Pharmacy profession. I encourage everyone to sit in the front seat, rather than the one in the corner, in order to learn and lead, and also to have a great academic year.

Thank you.

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PHARMACY PRACTICE RESIDENCY TRAINING PROGRAMS BY DR. TINA KANMAZ



Dr. Kanmaz is the Assistant Dean for Experiential Pharmacy Education and Associate Clinical Professor at St. John's University College of Pharmacy and Allied Health Professions.

Pharmacy practice residency training is a one-year program that serves as a bridge for the recent Doctor of Pharmacy graduate (with little to no independent work experience as a pharmacist) toward functioning as a competent, independent practitioner. The American Society of Health-System Pharmacists (ASHP) defines a pharmacy practice residency as an “organized, directed, postgraduate training program in a defined area of pharmacy practice.” During residency training, you have multiple opportunities to build upon the foundation of knowledge obtained during the PharmD program and refine your skills as a practitioner under the mentorship of a preceptor.

ASHP-Accredited Residency Programs

If you are wondering about where to begin learning more about Pharmacy practice residencies, an invaluable resource is the ASHP website. Log on to www.ashp.org, click on “Information For...,” and then click on “Residents.” On this site, you will hear from residency directors, as well as former pharmacy practice residents, in the following videos:

- 1) Why should I do a residency?
- 2) What is a residency?
- 3) The benefits of doing a residency
- 4) When should you start thinking of doing a residency?
- 5) The final steps (learning to master the residency interview process)

Frequently Asked Questions (FAQs) about residency programs will also answer your questions about what a pharmacy residency is, what the U.S. citizenship requirements are for that particular program, and whether you will earn a salary. A link to the online directory of ASHP-accredited residency programs provides access to all ASHP-accredited residency programs. These

programs are searchable by the institution’s name, geographical location, and the residency type. The residency listing for a specific program may also have a link to that program’s webpage. The residency program webpage will provide detailed information including a description of the program, the goals of the program, the number of available positions, the estimated stipend, additional application information, the program director’s contact information, and more.

Postgraduate Year One (PGY-I) Pharmacy Residencies

PGY-I residency programs are the first step for recent graduates from an entry-level PharmD program. PGY-I residencies provide residents with opportunities to enhance their growth and skill levels (beyond the entry-level PharmD program) in patient-centered care and daily operations of pharmacy practice. Most PGY-I residencies have required and elective rotations. Under the guidance of practicing pharmacists, during residency training, residents build upon the clinical judgment skills they acquired during the Advanced Pharmacy Practice Experiences (APPEs). Your experiences will encompass direct patient care activities, staffing, serving in leadership roles, and much more. If the residency program has an affiliation with a school of pharmacy, the resident may also serve as an educator to PharmD students in a direct patient care setting, the didactic setting, or both.

The resident should be able to demonstrate competence beyond the entry-level PharmD program in managing and improving the medication-use process, providing evidence-based and patient-centered medication therapy management with interdisciplinary teams, exercising leadership and practice management, demonstrating project management skills, providing medication and practice-related education and training, and utilizing medical informatics.

Postgraduate Year Two (PGY-2) Pharmacy Residencies

PGY-2 residency programs offer specializations in ambulatory care, cardiology, critical care, drug information, emergency medicine, geriatrics, infectious diseases, informatics, internal medicine, managed care pharmacy systems, medication safety, nuclear, nutrition support, oncology, pediatrics, pharmacotherapy, health-system pharmacy administration, psychiatry, and solid organ transplant. Most PGY-2 residency programs are looking for candidates who have completed a PGY-1 residency. PGY-2 programs build upon the strong foundation achieved in a PGY-1 residency, developing the resident as a competent practitioner in a more specialized area of pharmacy practice. A resident who successfully completes an accredited PGY-2 residency should have the competencies needed to achieve board certification in the practice area (where applicable).

WHAT ARE THE REQUIREMENTS FOR ADMISSION TO A RESIDENCY?

- You must be a graduate of an ACPE-accredited college of pharmacy or otherwise be eligible for licensure.
- You will need to demonstrate your interest in and aptitude for advanced training in pharmacy.
- Some residencies require licensure to practice before you enter the program. Others will accept you while you pursue state board licensure.
- For residencies combined with a graduate degree program, you must satisfy the requirements of the college of pharmacy or graduate school for admission to the advanced degree program. In addition, you will need to satisfy the residency requirements.
- Residents in ASHP-accredited programs are encouraged to become members of ASHP.

Practical Advice

Depending on what year you are in the Doctor of Pharmacy program, my advice to you will vary. If you are on your APPE rotations and plan-

ning to apply to a residency program, you will want to plan to be off during rotation in period 12 to attend the ASHP Midyear Clinical Meeting in December. You should continue adding your accomplishments to your RxPortfolio as you progress through the program. You can automatically generate a *Curriculum Vitae* (CV) from your RxPortfolio, which is required as part of your residency application. You will also need to provide three letters of recommendation. I have found it to be very helpful to ask your preceptors while you are still on rotation, perhaps during the last week of the rotation, if they will write a recommendation letter for you in preparation for your application.

Unfortunately, there are currently many more interested applicants than there are residency slots. In order to make yourself stand out and be competitive, I recommend that you speak to your preceptors and faculty members to gain advice and professional experiences. Gaining experience publishing an article and/or collaborating on a research project are some suggestions to express to your preceptors. These professional experiences will continue to develop you as a competent practitioner and enhance your application to a pharmacy practice residency.

During the fall semester, you can attend an informational session on campus to help you prepare for the ASHP Midyear Clinical Meeting. During the Midyear meeting, you will have the opportunity to meet with current residents and residency directors from across the country. The Midyear meeting is the first step to possibly securing an on-site interview with the program in January, February, or early March. We also host an on-campus Residency/Fellowship Showcase. Representatives from residencies and fellowships will be on campus for the day to answer your questions about their programs. I highly encourage you to attend both of these events to learn more about individual programs, network, and learn more about the National Matching Program.

I wish the best of luck to all of you!

THE LATEST NOVARTIS RECALLS BY: ALEENA CHACKO, LONG ISLAND UNIVERSITY PHARM.D. CANDIDATE C/O 2013



Established in 1996, Novartis International AG is a multinational pharmaceutical company based in Switzerland. On January 8, 2012, Novartis issued a recall on some popular over the counter (OTC) medications in the United States (U.S.) over concerns about broken or incorrect tablets ending up in these medication bottles. The drugs in question were Excedrin® and Bufferin®. However, Novartis Consumer Health stated that the recall, a precautionary measure, also applies to bottled versions of Gas-X® and NoDoz®. With this, Novartis decided to suspend production at its plant in Lincoln, Nebraska for “maintenance and other improvement activities.”

Some bottles of headache medicine (Excedrin®) and caffeine caplets (NoDoz®) with expiration dates of December 20, 2014 or earlier are subject to the recall. Additionally, some packages of pain medicine (Bufferin®) and stomach medicine (Gas-X®) with expiration dates of December 20, 2013 or earlier are also affected. Novartis stated that the mixing of different products in the same bottle could result in patients taking an incorrect product (stray medication), receiving a higher / lower strength than intended, or perhaps receiving an unintended ingredient that could result in overdose or an allergic reaction.

Novartis became aware of this potential problem during an internal review and complaints that identified issues such as broken gelcaps, chipped tablets, and inconsistent bottle packaging line clearance practices (where a potential for a tablet mix up was not ruled-out). The Swiss pharmaceutical company is working with the Food and Drug Administration (FDA) during the voluntary recall that affects U.S. retailers to make sure that patients did not take any medications that they might be allergic to or that might be dangerous when mixed with other medications. However, Novartis also stated that there have not been any complaints or consumer-reported adverse events.

On the other hand, the FDA is advising healthcare professionals and patients to examine the opiate products that Novartis makes for Endo Pharmaceuticals to make sure that all the tablets are the same color,

shape, and size. It issued a warning for the following Controlled Substance Schedule II (C-II) prescription products:

- Opana ER (oxymorphone hydrochloride) ER tablets
- Opana (oxymorphone hydrochloride) tablets
- Oxymorphone hydrochloride tablets
- Percocet (oxycodone hydrochloride and acetaminophen) tablets
- Percodan (oxycodone hydrochloride and aspirin) tablets
- Endocet (oxycodone hydrochloride and acetaminophen) tablets
- Endodan (oxycodone hydrochloride and aspirin) tablets
- Morphine sulfate ER tablets
- Zydone (hydrocodone bitartrate/acetaminophen tablets)

However, the recall did not end there. On January 13, 2012, Novartis AG expanded its Excedrin® recall to the Canadian health authorities. Health Canada said the Swiss company is recalling all lots of Excedrin® Extra Strength Caplets and Excedrin® Tension Headache caplets with expiration dates of December 20, 2014 or earlier. The medication is being recalled for the same reason as above. Health Canada will advise Canadian citizens if other details emerge.

As previously mentioned, Novartis has voluntarily suspended operations and shipments from its Lincoln, Nebraska, facility to rectify the problems at the site. This Swiss pharmaceutical company states that the recalls and factory repairs will cost around \$120 million. On January 16, shares of Novartis fell 95 cents to \$55.78, and may continue to decrease in value within the next couple of days.

SOURCES:

1. Drug Topics. Novartis recalls OTC products; FDA issues warning about company's opiate products. Available <http://drugtopics/Top+News/Novartis-recalls-OTC-products-FDA-issues-warning-a/ArticleStandard/Article/detail/755520?contextCategoryId=47443>
2. MarketWatch. Novartis Recall of Excedrin Products Extends to Canada. Available online: <http://www.marketwatch.com/story/novartis-recall-of-excedrin-products-extends-to-canada-2012-01-13>
3. Thomson Reuters Foundation. Novartis issues recall on Excedrin, Bufferin. Available online: <http://www.trust.org/alertnet/news/novartis-issues-recall-on-excedrin-bufferin/>

Rho Chi | Pharmacy Honor Society

Beta Delta Chapter

General Body Meeting

Sullivan 306

February 13, 2012

Common Hour (2PM-3PM)



We will be discussing upcoming events, community service, fundraising, and any suggestions you may have as a member!

+ LUNCH WILL BE PROVIDED!

BRILINTA® VS. PLAVIX® IN PATIENTS WITH ACUTE CORONARY SYNDROMES BY: RONIK SAHA, PHARM.D. CANDIDATE C/O 2013

Clopidogrel (Plavix®) is a thienopyridine antiplatelet agent, which exerts its antiplatelet effects via *in vivo* conversion to an active thiol metabolite that irreversibly blocks the P2 γ -12 component of platelet ADP receptors. This prevents activation of the GP2B/3A complex, thereby preventing platelet aggregation. Along with aspirin, clopidogrel reduces the rate of atherothrombotic events (e.g. myocardial infarction and stroke) in patients with acute coronary syndrome (ACS) with or without ST-segment elevation. Ticagrelor (Brilinta®) is a reversible antagonist of the P2 γ -12 component of platelet ADP receptors that prevents activation of the GP2B/3A complex. Ticagrelor also reduces the rate of atherothrombotic events in patients with ACS with or without ST-segment elevation in conjunction with aspirin.¹

The Platelet Inhibition and Patient Outcomes (PLATO) study sought to determine whether ticagrelor was superior to clopidogrel for the prevention of thromboembolic events and death in patients with ACS. The primary outcome measured in this study was death of study participants from cardiovascular or cerebrovascular causes. The primary endpoint occurred significantly less often in the ticagrelor group than in the clopidogrel group (in 9.8% of patients vs. 11.7% at 12 months; hazard ratio, 0.84; 95% confidence interval [CI], 0.77 to 0.92; $P < 0.001$). Furthermore, the hierarchical testing of secondary end points showed significant reductions in the ticagrelor group as compared to the clopidogrel group, with respect to the rates of the composite end point of death from any cause, myocardial infarction, or stroke (10.2% vs. 12.3%, $P < 0.001$).¹

The PLATO trial also examined the incidences of adverse reactions. First, the ticagrelor and clopidogrel groups did not differ significantly with regard to the rates of major bleeding, as defined in the trial (11.6% and 11.2%, respectively; $P = 0.43$). The study showed that greater platelet inhibition with ticagrelor was not associated with an increase in the rate of any major bleeding. However, dyspnea was more common in the ticagrelor group than in the clopidogrel group (in 13.8% of patients vs. 7.8%). It is also important to note that discontinuation of the study drug due to adverse events occurred more frequently with ticagrelor than with clopidogrel (in 7.4% of patients vs. 6.0%,

$P < 0.001$).¹

PLATO did indeed demonstrate that in patients with ACS, treatment with ticagrelor (compared to clopidogrel) significantly reduced the rate of death from vascular causes, myocardial infarction, or stroke. It achieved this without a significant increase in the rate of major bleeding. However, several key factors will limit ticagrelor's use in clinical practice. First, dyspnea is a serious adverse effect that can be very troublesome for patients, and PLATO showed that it occurred more frequently in patients on ticagrelor. Second, the package insert for Brilinta® states, "maintenance doses of aspirin above 100mg reduce the effectiveness of Brilinta® and should be avoided."² Other antiplatelet drugs, such as Plavix®, do not have this warning. This black box warning contraindicates the use of ticagrelor in patients who might require higher doses of aspirin to show a therapeutic effect in anticoagulation therapy. Third, the high cost of Brilinta® will most likely limit its use in patients; Plavix® will be available from generic manufacturers in May.³ Most insurance companies will probably be reluctant to place Brilinta® on their formularies, as well. As alluded above, Plavix® is a frequently prescribed medication and will soon be available as a generic.

Although ticagrelor does show an advantage over clopidogrel in terms of therapeutic efficacy, clopidogrel will most likely remain the drug of choice in preventing thromboembolic events in patients with ACS for years to come because of the cost and limitations to the use of ticagrelor.

SOURCES:

1. Wallentin, Lars et al. "Ticagrelor versus Clopidogrel in Patients with Acute Coronary Syndromes". *N Engl J Med* 2009; 361:1045-1057. Epub 2009 Sept 10.
2. Brilinta (Package Insert). AstraZeneca, Wilmington, DE; July 2011
3. Moisse, Katie. "10 Top-Selling Drugs Coming Off Patent". *ABC News Website Online*. July 25, 2011. < <http://abcnews.go.com/Health/Drugs/prescription-drug-prices-plummet/story?id=14152014#.Tx-GFPmwWlw> > Accessed January 24, 2012.

EXPRESS SCRIPTS AND MEDCO MERGER BY: MAHDIEH DANESH YAZDI

Express Scripts Inc., one of the nation's top pharmacy benefit managers (PBMs), has announced a \$29 billion deal to take over one of its top competitors, Medco Health Solutions Inc. Medco shareholders re-approved the merger on December 21. For finalization, it needs the approval of Express Scripts' shareholders and the federal government. The deal had raised concern in some corners, which saw it as stifling competition and potentially leading to higher prescription drug prices for consumers. In fact, it raised legal issues as some thought it might even be in violation of antitrust legislation, as the combined force of both PBMs may lead to 41% control of the PBM market. On Tuesday, December 6, 2011, the United States Senate held a hearing in the anti-trust subcommittee of the judiciary committee to address the issue. It asked experts who oppose and support the measure to offer their sides of the story.

The opponents of the bill, which include several consumer groups and Pharmacy organizations, say that the merger would result in a super-powered conglomerate that would dictate prices and the types of medications that patients could receive (while leaving little room for other alternatives). They point to the fact that, besides Medco and Express Scripts, the only PBM with a major customer base is CVS Caremark. They argue that it would also further limit patients' choices, as PBMs would force many of their members to use mail-order pharmacies (as opposed to traditional community pharmacies), in order to avoid additional fees and increased costs. This will give these PBMs a greater advantage in negotiating contracts with community pharmacies that might not be able to survive further cuts in their reimbursement rates. This would particularly hurt independent pharmacies, which do not have the same financial resources as their chain Pharmacy counterparts.

The proponents of the deal argue that there would be no lack of competition once the merger

happens. They also claim that prices would not increase from their current levels (as they expect drug prices to drop), and the merger would lead to greater efficiency in the dispensing chain. The companies also dispute the claim that consumers would no longer be able to use their neighborhood community pharmacies; they point out that, for Medco alone, 85% percent of consumers rely on community pharmacies for their medications.

The Federal Trade Commission (FTC) is also reviewing the case to determine whether it is in violation of any antitrust legislation. Thus far, it has asked both companies to provide more information about the deal. The Department of Justice has recently been more adamant in perusing such mergers that it perceives might interfere with competition in the free market, with the prime example being AT&T's failed bid to procure T-Mobile. Therefore, depending on further clarification by Express Scripts and Medco, it is unknown if this merger will be approved or not. Upon approval by the Express Scripts shareholders and the FTC, the deal will be completed by early 2012.

SOURCES:

1. Abelson, Reed and Natasha Singer. "Express Scripts-Medco Merger Raises Antitrust Concerns." 5 Dec 2011. The New York Times. 25 Dec 2011 <<http://www.nytimes.com/2011/12/06/business/tough-questions-for-express-scripts-medco-merger.html?pagewanted=all>>.
2. Matthews, Anna Wilde and Thomas Catan. "FTC Presses Express Scripts on Merger with Medco." 2 Sep 2011. The Wall Street Journal. 25 Dec 2011 <<http://online.wsj.com/article/SB1000142405311904583204576546991138106086.html>>.
3. PR Newswire. "NCPA Warns of Dangers of Express Scripts-Medco Merger at US Senate Hearing." 6 Dec 2011. PR Newswire: United Business Media. 25 Dec 2011 <<http://www.prnewswire.com/news-releases/ncpa-warns-of-dangers-of-express-scripts-medco-merger-at-us-senate-hearing-135112988.html>>.
4. Weigley, Samuel. "Medco Shareholders Approve Merger with Express Scripts." 21 Dec 2011. International Business Times. 25 Dec 2011 <<http://www.ibtimes.com/articles/270954/20111221/medco-express-scripts-merger-shareholders-pharmacy-benefit.htm>>.

MEDCO & EXPRESS SCRIPTS MERGER BY: ALISHA KUMAR, PHARM.D. CANDIDATE C/O 2012



Express Scripts proposed a \$29 billion acquisition of Medco Health back in July 2011, and Medco's shareholders almost unanimously accepted the offer. According to Medco's press release, the plan was approved by a margin of 99% to 1%, with approximately 72% of its shareholders voting.

The two companies manage prescription drug benefits for more than 115 million people and handle one third of all prescriptions filled in the United States (U.S.). Their collective revenues are greater than \$110 billion per year, which means the merger would allow them to become the primary player in the domestic markets for providing mail-order drugs to patients with chronic conditions (as well as expensive specialty drugs for conditions such as HIV, hemophilia, and rheumatoid arthritis).

The merger is interesting because it would reduce the number of major competitors from three to only two, which would leave customers (particularly large employers) too few choices and limited bargaining power. According to a recent analysis by Morgan Stanley Research, the 50 largest companies in the U.S. rely heavily on services of Medco, Express Scripts, and the third major pharmacy benefits manager (PBM), CVS Caremark.

Keeping this in mind, it is not a surprise that there are antitrust concerns. Lawmakers feel that a merger will harm competition. However,

George Paz, CEO of Express Scripts, claimed in a recent testimony, that the merger would be acceptable because drug prices are expected to drop due to heightened competition in the pharmaceutical industry (from both, brand and generic drugs). According to the two companies, this merger will allow for significant reductions in the nation's healthcare costs and allow drugs to be delivered in a safer and more efficient manner.

Now, with both companies' shareholders in acceptance with the merger, the plan is for Express Scripts to pay \$29 billion in cash and stock for Franklin Lakes, New Jersey-based Medco. Meanwhile, each side waits to receive regulatory approvals by the federal government and expects to close the deal in the first half of 2012.

SOURCES:

1. Weigley, Samuel. Medco Shareholders Approve Merger with Express Scripts. *International Business Times*. December 21, 2011. <http://www.ibtimes.com/articles/270954/2011/12/21/medco-express-scripts-merger-shareholders-pharmacy-benefit.htm>
2. Barr, Diana. Express Scripts, Medco Shareholders OK Merger. *St. Louis Business Journal*. December 21, 2011. <http://www.bizjournals.com/stlouis/news/2011/12/21/express-scripts-medco-shareholders-ok.html>
3. Abelson, Reed. Concerns over Pharmacy Merger. *The New York Times*. December 5, 2011. <http://www.nytimes.com/2011/12/06/business/tough-questions-for-express-scripts-medco-merger.html?pagewanted=all>

Do you have something to say?

Write to our editors at rhochis@gmail.com and we will feature your response in our next edition!

MY RESIDENCY, MY EXPERIENCE, A FOUNDATION FOR MY CAREER BY: SUM LAM, PHARM.D., CGP, BCPS, FASCP



Sum Lam, Pharm.D., CGP, BCPS, FASCP is an Associate Clinical Professor in the Department of Clinical Pharmacy Practice at St. John's University College of Pharmacy and Allied Health Professions. In conjunction with her full time appointment at St. John's University, she is a clinical faculty at Geriatric

Medicine Division, Winthrop University Hospital in Mineola. She is a preceptor for pharmacy students on their Inpatient and Geriatrics rotations.

A pharmacy residency is an organized, directed, postgraduate training program in a defined area of pharmacy practice. There are two types of residencies: Postgraduate Year One (PGY-1, general pharmacy practice) and PGY-2 (specialized pharmacy practice). Example areas of specialization for PGY-2 residencies and other useful information about pharmacy residencies are available at the American Society of Health-System Pharmacists (ASHP) website: <http://www.ashp.org/menu/Residents/GeneralInfo.aspx>.

After graduating from the University of Connecticut and completing a PGY-1 residency at Montefiore Medical Center in the Bronx, I eagerly relocated to Durham, North Carolina for a PGY-2 specialized residency in geriatric pharmacy practice. By then, I had developed a deep interest in optimizing drug therapy for older adults, who are more likely to have multiple disease states requiring complicated drug therapy. Often, the elderly are needy and disadvantaged financially, physically, and/or functionally. I felt that my knowledge and skills as a pharmacist could truly benefit and serve these patients. It was a big decision for me to leave New York for further pharmacy training, but I am so glad that I did.

My PGY-2 residency was a special collaboration among three institutions: Geriatric Research, Education & Clinical Center (GRECC) at Durham Veterans Affairs Medical Center, Duke University Center for the Study of Aging and Human Development, and the School of Pharmacy at the University of North Carolina. The training not only prepared me to be a more seasoned clinician, but also enhanced my ability to be an educator. Throughout the year, I worked directly

with patients to optimize drug therapy outcomes. I witnessed the receptive and welcoming attitudes of the physicians to pharmacy recommendations that aimed at identifying, preventing, and resolving drug related problems. Pharmacists were valued members of the interdisciplinary team, and had the privilege of documenting Pharmacy care plan notes in patient charts. One of the most treasured experiences was to serve as a clinical instructor for pharmacy students at the University of North Carolina and a guest lecturer for medical/physician assistant students at Duke University. I was responsible for didactic lectures and a laboratory session for pharmacy students for one entire semester.

Each rotation gave me a memorable and unique experience. Running an outpatient pharmacy clinic and a PHARMAssist program (a clinic for indigent patients) opened my eyes on the diverse types of non-traditional remedies that local people used to treat daily ailments. For examples, BC powder for pain, Windex glass cleaner for bug bites, vinegar immersion for warts on the hands, and many others. Working with these patients allowed me to develop cultural sensitivity and respect for patients' individuality. In the extended care and rehabilitation center, I performed monthly medication regimen reviews for about 20 long-term care residents throughout the year. Following these patients longitudinally allowed me to develop personal connections with these veterans.

My favorite rotation was home-based primary care, which incorporated telemedicine practice (a federally funded research project to reduce the hospitalization rate among frail elderly who reside at least 50 miles away from the medical center). Pharmacists traveled across towns, with a nurse practitioner and a clinical social worker, to visit patients in their homes. We performed assessments and counseled on medical issues, medication use, home safety, and benefit eligibility. Most patients were thrilled to meet us and to receive telemonitors (computers that allowed them to perform health monitoring and to gain access to healthcare professionals, including pharmacists, at the medical center at all times). This rotation also allowed me to learn about life through the experience of others. I will never forget the elderly man who showed me his purple heart and told me the heroic

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story behind it. In addition, this rotation gave me the unexpected opportunity to visit charming small rural towns in North Carolina.

I was most fond of the training on research and publication during the residencies. Thanks to the dedicated guidance of mentors, I completed and published two residency projects (during the PGY-1 and PGY-2) in a peer-reviewed, Medline-indexed pharmacy journal (AJHP). I presented both research projects at regional residency conferences and national ASHP clinical meetings. These were great rewards for the endless hours that I spent on protocols, data collection, poster preparation, and manuscript revisions during my residency years!

My pharmacy residency years were filled with hard work, yet they were fulfilling and rewarding. I have a

few recommendations for pharmacy students who are interested in postgraduate training. First, learn about residencies from ASHP websites, colleagues, and faculty. Second, prepare early; attend residency showcases and resume/CV / interview workshops offered by our college. Third, explore your interest in pharmacy specialties during your year of rotations. Fourth, be mentored; Clinical Pharmacy Practice faculty members are ideal for providing advice on residencies. Finally, if possible, do not limit your residency search geographically. It is worthwhile to relocate for one or two years for excellent residencies. Personally, I would never regret leaving Connecticut to go to New York (and then moving to North Carolina) for residencies that prepared me to become a better teacher and clinician. Now, I am back in New York: a place I call home. Every good and perfect gift is from above.

RESIDENCY EXPERIENCES: DIRECT IMPACT ON PROFESSIONAL DEVELOPMENT BY DR. SHARON SEE, PHARM.D., FCCP, BCPS



Sharon See, Pharm.D., FCCP, BCPS is an Associate Clinical Professor in the Clinical Pharmacy Practice Department at St. John's University College of Pharmacy and Allied Health Professions. In conjunction with her full time appointment at St. John's University, she is a clinical faculty member in the Beth Israel Residency in Urban Family Health in New York City where she is the coordinator of the inpatient pharmacotherapy curriculum.

I have been asked to reflect on my residency experience and offer advice to prospective residency candidates. I completed a specialty residency in Inpatient Family Medicine with Deaconess Family Medicine and the St. Louis College of Pharmacy (STLCOP) in St. Louis, MO. At that time, there were pharmacy practice residencies (now referred to as PGY-1 residencies) and specialty residencies (now referred to as PGY-2 residencies). I graduated from the five-year BS program at Rutgers, and stayed on for a two-year post baccalaureate Pharm.D. I was fortunate to have been accepted into a specialty residency without first completing a pharmacy practice residency. Although I had interviewed at several Pharmacy Practice residencies, STLCOP and Deaconess offered me opportunities that fit my career goals. I wanted to go somewhere pro-

gressive and very clinical. I wanted direct patient care and to collaborate with physicians at the point of care. It turned out to be the perfect setting for me.

I was part of the Deaconess Hospital Family Medicine Residency Program where my preceptor, Jack Burke, was the Pharm.D. attending for the residency program. He was on faculty, along with the other attending physicians, and was in charge of the inpatient pharmacotherapy curriculum. We took care of all the patients on the inpatient service. This residency program did not have any staffing component. My day-to-day work consisted of a sit-down meeting with the team at morning rounds, where we discussed patients admitted the night before. We would then go on walk rounds with the attending to see all the patients on our service. I followed all of the patients on the service, which usually consisted of about 20 to 30 patients. I helped to identify drug-related problems, made recommendations for adding or discontinuing therapy, answered drug information questions, and provided patient education. I rounded with the team on the weekends to provide continuity of care. It was a wonderful training environment. Oftentimes, the residents would wait to hear what I had to say about a patient's regimen before they wrote the orders.

One of the attractive things about STLCOP was the teaching component of the residency. In addition

to my clinical duties, I had opportunities to precept pharmacy students on rotations, teach in a physician assistant (PA) pharmacology course, give various lectures to family medicine residents, and facilitate workshops at the pharmacy school. There were nine pharmacy residents affiliated with STLCOP; we attended weekly resident teaching seminars where we learned the foundations of effective teaching and explored the use of abilities-based education in pharmacy. We were each assigned topics in the infectious diseases (ID) elective, and the weekly seminars helped us shape our lectures.

My year in St. Louis was also the beginning of building my professional network. The faculty members at STLCOP were very active in the American College of Clinical Pharmacy (ACCP). In fact, my former chair at STLCOP is now the executive director at ACCP. Their mentoring spurred me to join ACCP. My affiliation with ACCP has been invaluable in contributing to my professional development as a clinician and a teacher. It has also helped me gain leadership experience and learn from colleagues from across the country.

Today, in concert with my faculty position at St. John's University, I am a faculty member with the Beth Israel Residency in Urban Family Health where I am in charge of the inpatient pharmacotherapy curriculum. I help to train family medicine residents who wish to become family physicians. I designed my clinical practice and inpatient rotation based on my residency experience in St. Louis. We see patients with the team and optimize their drug therapy.

Ultimately, my residency training directly affected my career path and led me to where I am now. Good luck with your journey, and feel free to contact me if you have further questions. Thank you for providing an opportunity to share my residency experiences.

I compiled a few tips for you to consider as you learn more about pharmacy residencies.

TIP #1 – Apply to out of state residencies. If you are not geographically restricted, I highly recommend training in another state. This is a great way to gain experience in another part of the country and form a new network of friends and colleagues. You can always come back home to implement what you have learned elsewhere. It is only one year!

TIP #2 – Clarify your intent. Why you are interested in pursuing a residency? This is a crucial question because a residency is not for everyone. What is the position that you are hoping to get in the future? Does it require a residency? It is not enough to want to do a residency because it is the thing to do or you cannot decide what you want to do with the rest of your life. The economic climate makes residency training attractive; however, is this compatible with your career goals?

TIP #3 – Obtain letters of recommendation. If you are thinking about applying for a residency, you should really start the process when you start rotations. ASHP midyear occurs in December; so, if you are asking faculty or preceptors to write you letters of recommendation, please do so PRIOR to midyear, ideally in November or as soon as you are thinking about it. Your faculty and preceptors need time to write these letters. Keep in mind that they may be writing letters for five to seven students (each who may be applying to five or more programs). This takes time.

TIP #4 – Focus. What are you looking for in a residency? Do you want more managerial or teaching experiences? Look for programs that fit your interests or career goals.

THE IMPORTANCE OF RESEARCHING RESIDENCY SITES BY: DR. REGINA GINZBURG



Dr. Regina Ginzburg is an Associate Clinical Professor of St. John's University College of Pharmacy and Allied Health Professions. Her clinical site is at the Institute for Family Health (IFH) where she is an appointed faculty member for the Beth Israel Residency in Urban Fam-

ily Health. She and Dr. See oversee the pharmacotherapy curriculum for the family medicine residents. She and her pharmacy students also provide education to patients in the family medicine clinic. Additionally, she is the co-chair of the IFH Pharmacy & Therapeutics committee which oversees medication-related policies for 22 clinics throughout New York.

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The profession of pharmacy practice continues to expand, as does the recognition of the vital role of a pharmacist being part of the healthcare team. More than ever, the demand from hospitals, clinics, and community pharmacies to undergo postgraduate clinical training (aka residency) after obtaining a Doctor of Pharmacy degree is abundant.

As a student (years back), I went in to the residency application and interview process somewhat blindly. My preceptors informed me about how important a residency is. Watching how respected my preceptors were by the physicians and nurses surrounding them, I wanted to be a clinical pharmacist and/or teacher just like them (and by teacher I do not just mean teaching students, I did not realize I wanted to do that until later. I wanted to teach patients and healthcare professionals).

Therefore, I went to the American Society of Health-System Pharmacist (ASHP) Midyear Clinical Meeting to explore the residency showcase. I was told that it was best to do a residency outside of NY, so I could experience the “real” contribution that a pharmacist could make (as pharmacists had more limitations in NY 10 years back). However, coming from a family that did not want to consider me leaving home before I got married, I felt that I should probably limit myself to a feasible drive distance away (CT, NJ, or PA).

I did not know ambulatory care was my calling yet, and was not familiar with the Veterans Affairs (VA) system or the role of the pharmacist in the VA setting. Therefore, when I went to Midyear, I wandered aimlessly from booth to booth, casually conversing with some of the residents and/or program directors. I spoke with the residents of the Albert Einstein Medical Center (in Philadelphia, PA), who appeared to be very enthusiastic when speaking about their residency program. I felt compelled to apply there and really only to a few other places that piqued my interest. At my interview there, I was impressed by the number of clinical pharmacists employed by the hospital (not really heard of in NYC at the time, unless you worked for a college of pharmacy), as well as the responsibilities and experiences the pharmacy residents endured. I was

hooked. In fact, I was so hooked that I only put Albert Einstein as my choice on the match (by the way, I do not recommend doing this nowadays). However, I feel I should say that I did have an alternative plan should I not get into residency (but it is too long and tangential to mention in this article).

Nevertheless, thankfully, I matched!

Because I was so naïve to this process, I was not aware that the program I matched into was a relatively new program that only started three years prior to my being there.

ASHP provides somewhat of a guideline on the fundamentals of a residency program and type of rotations that should be included (e.g. core, elective, longitudinal, extended, etc.). This is part of the requirement to be accredited. However, each residency is still unique in the type of rotation and the preceptors’ guidance. For example, residency A and B are both PGY-I hospital-affiliated programs. However, residency A may offer electives in transplant, while residency B tends to specialize more in pain medicine (or endocrine, critical care, infectious disease, etcetera).

Some residencies are very stringent in their schedules for the year, whereas others are more lax and have the resident seek out electives of their choice. It is important for the applicant to know which type of residency would suit them best. The stringent program works best for those who thrive on structure, organization, and guidance. The lax program would suit someone who is ambitious and can get things done despite the lack of organization surrounding them. Perhaps this person may work better in this setting because they can tweak the program to suit their interests without much opposition from administrators – I matched into this type of residency program.

I have to admit that, as a student, I was not that ambitious. Therefore, when I started the residency program and saw how laid back it could be, I was disheartened. I planned to make a commitment for the year where I would work extremely hard with the payoff of substantial knowledge and experience enhancement. In the first couple of months, as my

co-residents and I were wandering around aimlessly, it seemed evident that we did not know what we should be doing or what our priorities were. My program director had the best of intentions, but, sadly, did not follow through on meeting with us or tracking our progression (mainly because he was so busy). I thankfully met a clinical pharmacist at the hospital who started her own Coumadin® (warfarin) clinic. After shadowing her for some time, I saw how beneficial a pharmacist could be in the ambulatory care setting. With her coaching, I introduced myself to the endocrinologists at the diabetes clinic and developed an elective there. I continued to set up more elective rotations in other clinics, as well (pain, HIV, etc.). Hence, I was able to make the best of my situation and feel proficient in ambulatory care.

Looking back, I am very grateful for everything that I have learned in my residency program and for the people who guided me and showed me how valuable a pharmacist can be.

This situation, however, could have gone down a different road. There were two other pharmacy residents in my year, and they were as similarly disheartened as I was. One of the residents had a passion for critical care. Therefore, she followed a sim-

ilar suit where she had to contact numerous attending physicians whom she never met and establish electives in various critical care units throughout the hospital. The other resident just did not have the drive. She just fulfilled her core rotations and spent her elective months dabbling in different floors of the hospital, but never felt that she acquired anything out of her residency experience.

I cannot speak on behalf of my residency program or inform you about how it currently operates. My program director left the hospital a few years after I graduated and all of the pharmacists I worked with back then are currently employed elsewhere. It may very well be a much more structured program or it may still have same the spontaneity as it did then. However, many other programs may be similar in nature. It is very important for the pharmacy student / applicant to research the programs that they are interested in and make a decision about the type of programs that would best suit them.

A PGY-I residency is a year of dedication equivalent to three years of experience. It is crucial to make the best of it because you only get to experience a PGY-I residency once.

EXPRESS, BE INVOLVED, AND GROW BY: DR. GREGORY J. HUGHES



Gregory J. Hughes, PharmD, BCPS, CGP is an Assistant Clinical Professor in the Clinical Pharmacy Practice department at St. John's University College of Pharmacy and Allied Health Profes-

sions. He completed his pharmacy practice residency at the St. Louis VA Medical Center and the St. Louis College of Pharmacy with an emphasis on geriatric pharmacotherapy. Dr. Hughes' clinical practice site is North Shore University Hospital in the Department of Internal Medicine. His areas of interest are geriatrics, anticoagulation, arrhythmias, heart failure, infectious disease, and teaching methodologies.

Upon completion of the Doctor of Pharmacy curriculum, new graduates are prepared to begin their careers as new practitioners. While some new graduates will chose to begin practice in community or hospital pharmacy settings, others will strive to hone and build on their skills, knowledge, and abilities by completing a pharmacy practice residency. This one-to-two-year, highly competitive venture is an important decision for a fledgling pharmacist.

When deciding to complete a residency, each resident will create his or her own unique experience, within the constraints of a program's structure. No two residencies are identical. As per the accrediting organization, all ASHP-accredited first year residencies must have some core com-

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ponents. The program must build a structured approach for the resident to manage and improve the medication-use process, provide evidence-based patient-centered care with interdisciplinary teams, exercise leadership and management skills, provide education and training, and utilize medical informatics. Residencies will generally have a number of required rotations and may have elective rotations varying with each resident's goals. Residencies require a project or research plan that may take the entire year, or longer, to accomplish.

The daily routine of each resident will vary depending on which program he or she chooses. The best way to find out specifically what a typical day will encompass is to ask the current or past residents, or the residency director. The best time for these questions is within the months preceding the application deadline to the program. Applications are typically due at the beginning of the calendar year. In the fall, many residency programs will take part in local, regional, or national residency showcases. The largest of these is the ASHP Midyear Clinical Meeting, where a large number of programs gather to seek out potential residency candidates. The ASHP website is a good resource for general information and many programs will have information available on their own website throughout the year.

In completing a pharmacy practice residency, the resident will transform both professionally and personally. Enhanced clinical aptitude is only one aspect that will be cultivated. Residents will find themselves in a position to deliver education and demonstrate their abilities to fellow pharmacists in addition to other disciplines. Residents will forge lifelong relationships with co-residents and preceptors. Opportunities will develop for collaboration on research and publishing that otherwise would not have existed. In addition to professional growth, maintaining a balance with a healthy social life is an important, incorporated goal in a residency. This is important, since, unfortunately, socializing may go by the wayside in intense academic programs.

One of the editors from this newsletter asked me to write briefly about my experiences and my feelings about them. Upon graduating from St. John's University, I chose to complete a residency at a joint program of the St. Louis Veterans Affairs Medical Center and the St. Louis College of Pharmacy. My residency focused on the geriatric population; its current and future needs in our society cannot be overstated. During my residency experience, I cared for patients in a pharmacist-run geriatric clinic, a rehabilitation unit, an anticoagulation clinic, internal medicine, and several other practice settings. I performed chart reviews for nursing homes, admission reviews in a Program for All-Inclusive Care for the Elderly, was a preceptor for IPPE and APPE students, taught in Therapeutics and Advanced Pharmacotherapy courses, and spoke at a regional geriatric conference. These activities were not prescriptive, but merely examples of what a pharmacy practice residency can offer. During the residency, I developed (previously underutilized) strengths, as well as relationships that I would never forget. If I could go back and make the decision to do a residency again, I would do so without hesitation.

The following are some words of advice to those considering a pharmacy practice residency. My recommendations are to express your interests early and to get involved with pharmacy organizations that share your interests. Most pharmacy organizations offer memberships and resources to students at a discounted rate or for free. Many events take place locally where you may be able to network with pharmacists. I also recommend traveling to national meetings prior to the last professional year to those who can within their means. These national meetings open up the profession to a different level and may help you realize you really want to commit to a residency or find it is not for you. Lastly, you can always turn to your faculty at St. John's University, who can provide you with individualized advice and guidance.

BYDUREON®: A WEEKLY INJECTION FOR TYPE 2 DIABETES MELLITUS BY: MOHAMED DUNGERSI

On January 27, the FDA approved Bydureon® (exenatide extended-release) for use in Type 2 Diabetes Mellitus (T2DM), as an adjunct to diet and exercise. Bydureon®, a product of Amylin Pharmaceuticals, is a modified formulation of the twice-daily injection, Byetta® (exenatide). It is the first once-a-week medication for T2DM in the market.

The twice-daily injection formulation, Byetta®, is also a recent addition to medications that used to control T2DM. The active ingredient, exenatide, was the first incretin mimetic used to treat T2DM. It is a GLP-1 (glucagon-like peptide-1) receptor agonist suggested to have multiple actions, such as the potentiation of glucose-mediated insulin secretion, suppression of postprandial glucagon release (via unknown mechanisms), slowed gastric emptying, and a central loss of appetite. All these actions, in combination, lead to decreased blood glucose levels and the control of T2DM. The effect of increased satiety, through delayed gastric emptying and a central loss of appetite, produces anorexia and weight loss. These are key components in treating the typical T2DM patient with exenatide.

Since most of the anti-diabetic agents cause weight gain as an undesirable consequence (as with pioglitazone), the use of incretins has been quickly gaining popularity. Victoza® (liraglutide), a once a day injection, is another incretin mimetic that was approved in January of 2010 for similar uses.

Bydureon® provides all the advantages of the incretin mimetics, but offers a much more convenient once-a-week dosing regimen. Although the FDA approved its use, there are still some safety concerns. The FDA is requesting the man-

ufacturer to conduct a randomized, double blind, placebo-controlled trial evaluating the drug's effect on the incidence of major cardiovascular events among patients with T2DM. The trial must also assess the risk other adverse events, such as pancreatic cancer, renal disorders, and serious hypoglycemia, as well as the long-term effects on potential biomarkers of medullary thyroid carcinoma (MTC). In addition, the company must conduct a number of studies with mice — and one that also includes mouse, rat, and human thyroid C cells — that focus on MTC. Bydureon® has a black box warning for MTC due to the incidence of thyroid C-cell tumors at clinically relevant exposures in rats. There is no established data on the incidence of such tumors or MTC in humans. Hence, patients with a personal or family history of MTC or patients with Multiple Endocrine Neoplasia syndrome type 2 (MEN 2) should not use Bydureon®.

SOURCES:

1. Lowes R. Once-Weekly Exenatide Okayed by FDA for T2DM after Long Look. Medscape Pharmacists News Website. <http://www.medscape.com/viewarticle/757664?src=ptalk>. Accessed February 1, 2012.
2. Katzung BG, ed. Basic and clinical pharmacology. 11th Ed. New York (NY): Lange Medical Books/McGraw-Hill; 2007.
3. Bydureon [package insert]. Sand Diego, CA: Amylin Pharmaceuticals; 2012
4. Byetta [package insert]. Sand Diego, CA: Amylin Pharmaceuticals; 2005
5. FDA News Release. FDA Approves New Treatment for Type 2 Diabetes. <http://www.fda.gov/newsevents/newsroom/pressannouncements/ucm198638.htm>. Accessed February 1, 2012.

What is your clinical input?

Write to our editors at rhochis@gmail.com and we will feature your response in our next edition!



APhA

American Pharmacists Association®

Improving medication use. Advancing patient care.

Looking to get involved this Spring?

Come to our...

General Body Meeting

February 2, 2012

Sullivan Hall B-14

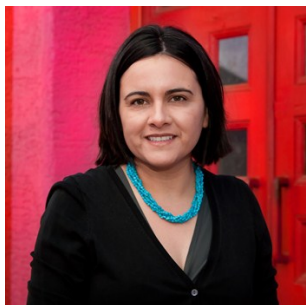
Common Hour (1:50PM to 3:15PM)



Everyone is welcome!!

We will be discussing this semester's events, community service opportunities, membership, elections for next year's executive board and more!

PHARMACISTS ARE HEALTHCARE PROVIDERS! BY: SANDRA LEAL, PHARM.D., CDE



Sandra Leal, PharmD, CDE is the Director of Clinical Pharmacy at El Rio Health Center in Tucson, Arizona. Dr. Leal is the first pharmacist in Arizona to receive prescriptive authority under collaborative practice. She is currently the Co-Chair of

HRSA's Patient Safety and Clinical Pharmacy Services Collaborative, a national effort to improve health outcomes and patient safety through clinical pharmacy services.

Dr. Sandra Leal is also responsible for the petition on change.org to recognize pharmacists as healthcare providers under federal law. It was our pleasure to invite Dr. Leal to contribute to the Rho Chi Post regarding her inspiration for creating this petition and speak to us about why she considers this an important matter for our profession. We highly recommend that fellow students, professionals, faculty members, pharmacists and readers read about the petition and sign it by clicking the [link here](#). On behalf of the entire Rho Chi Post editorial team and St. John's University College of Pharmacy, we would like to thank Dr. Leal for contributing to our newsletter.

Topic Question: When you started pharmacy school did you think you were going to be a health care provider? Please explain your answer and the reasoning behind your petition on change.org

I did, and I was shocked to find out that this was not the case. In fact, I had not even realized the gravity of this lack of provider status recognition until I started working at my current position.

I had worked in a hospital, a retail setting, a compounding pharmacy and even in a lab doing research. My passion was really working in a pa-

tient care setting where I could practice to my full potential. My current position was funded through a grant from the Office of Pharmacy Affairs. The purpose was to integrate clinical pharmacy services into a treatment team to improve the use of medications in a patient care setting.

Initially, the position was only funded for two years but after being able to show improved health outcomes for the patients I was working with, I was able to retain my position. The challenge is this...lack of provider status makes it difficult to add other clinical pharmacists to our program because there is not a direct source of reimbursement from payers even though the evidence shows improve outcomes!

This might not seem like a big deal but the reality is that we are educated to be medication use experts. After working in different environments, I realized that I could make the biggest impact working directly with patients and providers to optimize the medication regimen before, during and after the prescription was written. Some pharmacists might worry about the extra work or liability, but the reality is that you are liable no matter what. The real impact that you can make to reduce liability is by getting involved and being proactive as oppose to being reactive.

Because of this, I started a petition on [Change.org](https://change.org) to recognize pharmacists as health care providers to create awareness about this issue. With over 16,500 signatures, it has resulted in an energizing dialogue that is gaining momentum. The pharmacy profession is changing...you might not realize this now, but reflect back on this petition just one or two years after you graduate and you too will understand the gravity of this issue.

What are your thoughts on the topic?

Write to our editors at rhochis@gmail.com and we will feature your response in our next edition!

PROTON PUMP INHIBITORS AND THE TREATMENT OF OSTEOPOROSIS BY: NEAL SHAH

Osteoporosis is a disease of the bone characterized by decreased bone mineral density (BMD), which reduces the ability of bone to provide adequate structural support. The main cause of this decreased BMD is inadequate calcium intake or absorption. The decreased BMD can cause diffuse lesions throughout the skeletal system and can eventually lead to fractures.¹

The most common places for fractures to occur are the wrist, hip, and spine, and femur.^{2,3} Dual-energy X-ray absorptiometry (DXA) scans determine the BMD of a patient by measuring and comparing the results of these body locations to a normal, matched population. The measurement of BMD, a T-score, represents standard deviations from the mean. Osteoporosis is defined as a T-score of ≤ -2.5 , whereas a milder form of osteoporosis (known as osteomalacia) is defined as a T-score between -2.5 to -1.0 .^{2,4} Universally, women above the age of 65 and men above age 70 should receive screening for osteoporosis.^{2,4}

Once a diagnosis of osteoporosis is established, the patient should increase physical activity and start a daily regimen of calcium and vitamin D, and the clinician should initiate prescription medication therapy.

Pharmacologic treatments of osteoporosis include bisphosphonates, teriparatide, denosumab, raloxifene, and calcitonin.^{3,5} Some drugs worth mentioning are raloxifene, bazedoxifene, and denosumab. Raloxifene is a selective estrogen receptor modulator (SERM) used in the prevention of vertebral fractures and treatment of osteoporosis in postmenopausal patients, when there is an increased risk of breast cancer.² Another SERM, bazedoxifene, exhibits favorable effects on lipid and bone profiles—both vertebral and non-vertebral, and provides protection against fractures for up to five years. This drug is not currently available in the United States market.⁶ Denosumab is a monoclonal antibody that increases prevents RANKL from activating its receptor,

thus decreasing bone resorption. Patients receive a 60 mg subcutaneous injection of denosumab for osteoporosis every six months.⁷

A recent economic study of postmenopausal osteoporotic women in Belgium compared the cost effectiveness of three years of treatment with denosumab versus risedronate or alendronate. The study found that denosumab was a cost-effective strategy compared to the two bisphosphonates, and it has the potential to become a first line therapy due to the relative ease of (and duration between) administration.⁸

Bisphosphonates are the most commonly used drugs in osteoporosis therapy because of easy, once-weekly or once-monthly oral administration and low cost, whereas the other therapies may be parenteral and are associated with increased costs.⁹ Patients usually take bisphosphonates in the morning, before any other food or liquids, with a full glass of water, remaining upright for at least half an hour (as seen with alendronate). The 30-minute waiting period prevents any reflux from causing esophagitis.¹¹

Patients who may have pre-existing gastroesophageal reflux disease (GERD) may also be on proton pump inhibitors (PPIs). A recent report stated that PPIs decreased the efficacy of alendronate in preventing hip fractures.¹¹ In 2010, the FDA issued a statement, warning that high dose and long-term PPI therapy may increase the risk of developing osteoporosis. These results were not very clear: two studies cited in their statement used high dose PPIs in their trial, another two studies cited used long term PPI use in their trial, and three other studies have shown that there is no consistent association between osteoporosis and PPI use.¹² The cause behind the purported decrease in efficacy is due to the pharmacologic effects of PPIs.

Calcium is traditionally absorbed in an acidic environment. PPIs decrease acidity; so, one can logically assume that decreased calcium absorp-

tion in at-risk patients may accelerate bone resorption. In one observational study, concurrent bisphosphonate (alendronate) and PPI use in elderly patients was associated with a dose-dependent loss of protection against hip fractures. This study did not show any association between histamine-2 receptor antagonists (H2RA) and decreased protection against hip fractures.¹³

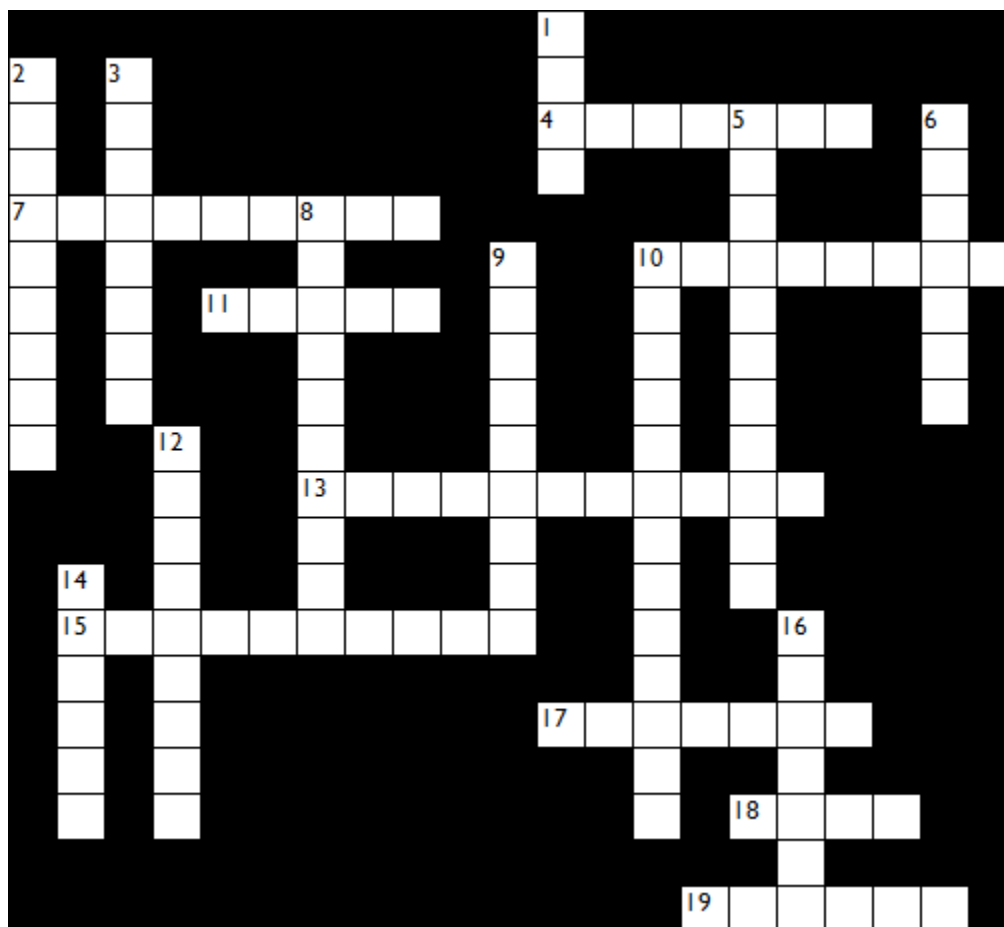
Another study at the Massachusetts General Hospital observed that PPI use was associated with an increased risk of non-spine fracture in men not taking calcium supplements, but H2RA use was not associated with non-spine fractures.¹⁴ A retrospective 10-year analysis by a research group in California found that both, PPIs and H2RAs, posed an increased risk of hip fracture. However, this association was only found in those with at least one other risk factor for hip fractures.¹⁵ Another study analyzed the results from the Women's Health Initiative (WHI), in terms of PPI and fracture risks, and concluded that the use of PPIs was not associated with hip fractures, but was modestly associated with clinical spine, forearm or wrist, and total fractures.¹⁶

One limit unaddressed in any study was the type of calcium supplementation. There are two common, orally administered calcium products: calcium carbonate and calcium citrate. Calcium carbonate requires an acidic environment, whereas calcium citrate does not.¹⁷ The daily allowance of calcium in males and females above the age of 50 is 1000-1200 mg per day. Combinations of calcium and vitamin D increase the absorption of calcium. Since the maximal absorption of calcium is roughly 500-600 mg, patients should separate their calcium intake to twice daily. Hence, none of the studies addressed whether calcium supplementation was with calcium carbonate or calcium citrate.

Patients on concomitant bisphosphonates and PPIs should continue to take calcium citrate and vitamin D to reach their daily allowance of calcium.

SOURCES:

1. Raphael, R., Strayer, D., Rubin, E. et al. Rubin's Pathology: Clinicopathologic Foundations of Medicine, 5th ed. Lippincott Williams & Wilkins. Baltimore, Maryland.
2. Institute for Clinical Systems Improvement (ICSI). Diagnosis and treatment of osteoporosis. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2008 Sep.
3. Tutorials - Pathology Subjects. Osteoporosis. Available online at: <http://library.med.utah.edu/WebPath/TUTORIAL/OSTEO/OSTEOPOR.html>. Last accessed on December 17, 2011.
4. Molfetta L, Caldo D. Clinical and forensic medicine issues in osteoporosis fractures. *Aging Clin Exp Res*. 2011 Apr;23(2 Suppl):17-9.
5. Ragucci KR, Shrader SP. Osteoporosis treatment: an evidence-based approach. *J Gerontol Nurs*. 2011 Jul;37(7):17-22. doi: 10.3928/00989134-20110602-02. Epub 2011 Jun 15.
6. Duggan ST, McKeage K. Bazedoxifene: a review of its use in the treatment of postmenopausal osteoporosis. *Drugs*. 2011 Nov 12;71(16):2193-212. doi: 10.2165/11207420-000000000-00000.
7. Prolia package insert. Amgen.
8. Hilgsmann M, Reginster JY. Cost effectiveness of denosumab compared with oral bisphosphonates in the treatment of post-menopausal osteoporotic women in Belgium. *Pharmacoeconomics*. 2011 Oct;29(10):895-911. doi: 10.2165/11539980-000000000-00000.
9. Selis S. New osteoporosis drug may not be worth its high price, study finds. Available online at: http://healthpolicy.stanford.edu/news/new_osteoporosis_drug_may_not_be_worth_its_high_price_study_finds_20060610/. Last accessed on December 17, 2011.
10. U.S. National Library of Medicine: PubMed Health. Alendronate. <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0000018/#a601011-how>. Last accessed on December 17, 2011.
11. Abrahamsen B, Eiken P, Eastell R. Proton pump inhibitor use and the antifracture efficacy of alendronate. *Arch Intern Med*. 2011 Jun 13;171(11):998-1004. Epub 2011 Feb 14.
12. Lowes R. Proton Pump Inhibitors May Increase Fracture Risk, FDA Warns. Available online at: <http://www.medscape.com/viewarticle/722442>. Last accessed on December 17, 2011.
13. Abrahamsen B, Eiken P, Eastell R. Proton pump inhibitor use and the antifracture efficacy of alendronate. *Arch Intern Med*. 2011 Jun 13;171(11):998-1004. Epub 2011 Feb 14.
14. Yu EW, Blackwell T, Ensrud KE et al. Acid-suppressive medications and risk of bone loss and fracture in older adults. *Calcif Tissue Int*. 2008 Oct;83(4):251-9. Epub 2008 Sep 24.
15. Corley DA, Kubo A, Zhao W et al. Proton pump inhibitors and histamine-2 receptor antagonists are associated with hip fractures among at-risk patients. *Gastroenterology*. 2010 Jul;139(1):93-101. Epub 2010 Mar 27.
16. Gray SL, LaCroix AZ, Larson J et al. Proton pump inhibitor use, hip fracture, and change in bone mineral density in postmenopausal women: results from the Women's Health Initiative. *Arch Intern Med*. 2010 May 10;170(9):765-71.
17. National Institutes of Health: Office of Dietary Supplements. Dietary Supplement Fact Sheet: Calcium. Available online at: <http://ods.od.nih.gov/factsheets/calcium>. Last accessed December 17, 2011.

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PUZZLE: CROSSWORD BY: MAHDIEH DANESH YAZDI

Across

4. Alternative to Flomax
 7. Hytrin
 10. Alpha blocker with greatest potential for cardiovascular side effects
 11. =Flomax+Avodart
 13. Synthetic Prostaglandin E1
 15. Only selective alpha 1a receptor blocker available generically
 17. Newer 5 alpha reductase inhibitor
 18. System of intra-urethral suppositories/pellets of alprostadil
 19. PDE 5 inhibitor without an active metabolite

Down

1. A type of surgery used in patients with an enlarged prostate
 2. Transdermal testosterone patch
 3. Testosterone gel
 5. 5 alpha reductase inhibitor also indicated for alopecia
 6. PDE 5 inhibitor more commonly associated with QT prolongation
 8. PDE 5 inhibitor more commonly associated with hearing loss
 9. Uroxatral
 10. Removal of the prostate
 12. Herbal alkaloid derived from Pausinystalia yohimbe
 14. Alternate brand name to Levitra
 16. Alpha blocker that comes in an extended release formulation as well

LINK REVEALED: PPI USAGE, SMOKING, AND BONE FRACTURES BY: EBEBY P. SOMAN

Proton pump inhibitors (PPIs) are medications commonly prescribed to treat heartburn, acid reflux disease, and ulcers. Almost a vast majority of patients in the United States seem to be taking a PPI, either as a prescription or from over-the-counter (OTC). Researchers recently discovered associations between the long-term use of PPIs and bone fractures. Now, a new study published in the British Medical Journal (BMJ) revealed more condemning links to bone fractures in a prospective cohort study titled “Use of proton pump inhibitors and risk of hip fracture in relation to dietary and lifestyle factors.”

The study used 79,899 women (aged between 30 and 55) enrolled in the Nurses’ Health Study. The women provided six-month’s worth of data on their use of PPIs and other risk factors. The main monitoring outcome was the incidence of hip fractures in women taking PPIs compared to women who did not take PPIs, as well as women who smoked while taking PPIs. The study showed that the risk of hip fractures in women taking long term PPIs was 2.02 events per 1000 person years, compared with 1.51 events per 1000 person years among women not taking any PPIs. Women who used PPIs regularly for two years had a 35% increased risk of fractures, with longer usage continuing to increase that risk.

The results in women who smoked or had a history of smoking were even more interesting. The use of PPIs in this population resulted in a 50% increased risk of hip fracture compared with women who did not take the medication. The study concluded, “Chronic use of PPIs is associated with increased risk of hip fracture, particularly among women with a history of smoking.”

Dr. John Stevenson, who sits on the medical advisory council of the British Menopause Society, stated that the study shows an association between PPI use and hip fractures, but is not significant enough to warrant a warning against use in patients needing such medications. However, it is a clear indicator of the need to educate patients on appropriate ways to take PPIs and smoking cessation.

Mr. Dan Greer, the Royal Pharmaceutical Society spokesperson on gastroenterology medicines, stated, “this study strengthens the current recommendations for PPI use, in that for the majority of patients with symptoms of indigestion, PPIs should only be used for short courses (one to two months), with repeat courses offered at the lowest dose that controls symptoms.”

Community pharmacists play a vital role in society as the bridge between the patient and the medical community. Thus, this is an important opportunity for pharmacists to make headway into counseling patients on proper usage of certain OTC medications, such as PPIs. It also raises the necessity to push smoking cessation programs and to offer information about making healthy choices to prevent future complications.

SOURCES:

1. BBC News. Ulcer drugs ‘link to fractures.’ Available online: <http://www.bbc.co.uk/news/health-16808621> Last accessed 1 Feb 2012.
2. Khalili H, Huang ES, Jacobson BC, et. al. Use of proton pump inhibitors and risk of hip fracture in relation to dietary and lifestyle factors: a prospective cohort study. *BMJ*. 2012 Jan 30;344:e372. doi: 10.1136/bmj.e372.

What is your clinical input?

Write to our editors at rhochis@gmail.com and we will feature your response in our next edition!

SHOULD PLAN B HAVE AN AGE RESTRICTION? BY: MARIE HUANG

Back in December, the FDA was overruled by the presidential administration to make Plan B (levonorgestrel 1.5 mg) an over-the-counter (OTC) medication.¹ We became interested in the matter, and asked our fellow students if Plan B should be available to people of all ages directly off of drugstore / supermarket shelves without a prescription. We found that an overwhelming majority of students preferred the current model – patients should present identification that states that they are ≥ 17 years of age.

We were able to get in touch with two students from opposing sides of the debate.



Alexandra Alleva, a 5th year PharmD candidate, provided us with the following insight: “The decision to maintain Plan B as inaccessible without a prescription to minors is, in my professional opinion, the most appropriate action at this time. From the pharmacist’s perspective, there is the issue of offering the proper medication counseling, for which our field is well qualified. Allowing adolescents the access to Plan B (without age restrictions) would not only deprive them of this vital person-to-person component, but it also increases the risk of medication misuse that this demographic is already prone to experiencing. Plan B is not devoid of side effects, and when considering the young age of this group, it is imperative that they know the correct dosing and instructions for effective contraception. Another issue I find with ‘restriction-free’ / OTC Plan B is from the perspective of the purchaser, who could translate the convenience into lesser ramifications. This type of contraception is a last resort and not like other OTC products. With the fragility of this subject matter, certain restrictions can help them evaluate their decisions more gravely and less haphazardly, and allow them time to weigh their choices accordingly. Unintentional childbearing at that age not only

affects the mother, but it contributes to far-reaching societal and national problems for our economy and healthcare systems. The current model is encouraging; potential users of Plan B need to educate themselves on taking other precautions before having to rely on medication a convenient resort. Holding Plan B ‘behind the counter’ and as a prescription for those under age 17 will channel patients through the physician and pharmacist outlets, where the much-needed guidance, reinforcement, and healthcare services can be provided.”



Amy Findakly, also a 5th year PharmD candidate, provided us the following: “I believe Plan B should be accessible to girls who find themselves in these kinds of difficult situations, including those under 17. Young girls deal with the challenge of

teen pregnancies, and shows like ‘Teen Mom’ and ‘16 and Pregnant’ document it. Although this is definitely a very controversial subject, Plan B can remedy accidents, such as contraception failure, and can keep these girls on the same track they were on prior to the incident. It should ultimately be the girl’s decision, of course; as we have learned, Plan B is a safe method of emergency contraception. I feel that it should be accessible to those who seek it.”

SOURCES:

1. New York Times. Plan to Widen Availability of Morning-After Pill Is Rejected. Available online at: <http://www.nytimes.com/2011/12/08/health/policy/sebelius-overrules-fda-on-freer-sale-of-emergency-contraceptives.html>. Last Accessed on 1 Feb 2012.

New York City Society of Health System Pharmacists

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PHARMACY STUDENT ROUNDTABLE SESSION

What: Participate in a networking round table event to discuss your career options with prominent leaders in the field of pharmacy including hospital directors, industry leaders, faculty members, pharmacy IT administrators, and many more!

Where: New York University Hospital for Joint Diseases 301 East 17th Street
New York, NY 10003
13th Floor Cafeteria

When: March 8th, 2012 @ 6-8:30 PM

Ticket: \$10 (1st come, 1st serve to paid students)

RSVP: Drop off \$10 cash to Joan Petrere in the CPP office to confirm your spot.
Send an e-mail to sjucpp@gmail.com if you have any further questions.

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will be served!

EPIC SPELLS TROUBLE FOR MANY SENIORS BY: EBEEY P. SOMAN



New York State's Elderly Pharmaceutical Insurance Coverage Program (EPIC) is a secondary prescription insurance program for over 280,000 income-eligible seniors aged 65 and older. The program supplements members' out-of-pocket Medicare Part D drug plan costs.

To be eligible for EPIC, the senior must be a state resident with an annual income of less than \$50,000 (if married) or less than \$35,000 (if single). Up until December 31, 2011, these patients receive subsidized low-cost medication. The copayments ranged from \$3.00 to \$20, depending on the cost of the medication and the income category.

On January 1, 2012, many seniors who were accustomed to the traditional EPIC coverage received an unexpected new year's "gift." Many patients found that the cost of their medications had increased. This was primarily due to the huge budget cuts and program changes that went into effect the beginning of this year.

EPIC currently covers medication copayments when the member is in the "donut hole" or the Medicare coverage gap. The program also pays for medications excluded from Medicare Part D coverage, such as benzodiazepines and barbiturates. During this coverage gap period, the seniors will see their familiar \$3, \$7, \$15, or \$20 copayment amounts for their medications. To obtain EPIC's benefits, patients must pay a deductible

(up to \$320) and exceed the Part D limit of \$2,930 to fall into the coverage gap.

Some patients had EPIC listed as their primary insurance, and pharmacies billed EPIC as a primary plan. This has also changed, as these members are now required to obtain Medicare Part D insurance. Senior citizens who do not enroll in a Part D plan by the end of February (63 days after December 21, 2011) will receive a penalty in the form of an increased monthly premium. On average, the monthly premium can increase by $\geq 1\%$ for each month that the patient does not enroll in a Medicare Part D plan. Additionally, patients will need to pay the increased premium rate after they obtain Part D coverage.

EPIC members have a Special Enrollment Period (SEP) to sign up for Medicare Part D. To avoid any penalties, they may contact EPIC and receive assistance in selecting the most appropriate plan. EPIC members who wish to switch their Part D plans may do so only once during the 2012 year, with the exception of Medicare Advantage members (who must contact their plan to exercise this option).

Patients can obtain more details about this opportunity and other EPIC changes by calling the toll-free EPIC service number 1-800-332-3742 (TTY 1-800-290-9138) or the Spanish language service line by calling 1-800-332-3742.

SOURCES:

1. New York State Department of Health. Elderly Pharmaceutical Insurance Coverage (EPIC) Program. Available online at: http://www.health.ny.gov/health_care/epic/. Last accessed 1 Feb 2012.

IMAGE SOURCE:

<http://wskgnews.files.wordpress.com/2012/01/pill-bottle-by-madcowiv.jpg>

My Vascular Valentine

Bent Hall 277B
Feb. 14, 2012
11AM to 1PM



Make hearts,
learn healthy
habits, exercise,
and more!

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ADAPTING TO THE CHANGING ROLES IN PHARMACY BY: KATE CROEGAERT, PHARM.D. CANDIDATE C/O 2013



Kate Croegaert is a PharmD Candidate (Class of 2013) and the current President of the Rho Chi Delta Chapter at the University of Iowa College of Pharmacy. She believes

in the importance of advancing the profession of pharmacy and promoting innovative practices within the profession. We would like to thank Associate Dean, Dr. Bernard Sorofman, for connecting us to Mrs. Croegaert.

The role of the pharmacist is undergoing significant changes; the focus of pharmacy practice is shifting from dispensing medication to providing patient-centered care. In the past, the volume of prescriptions filled has driven profits in pharmacy. This focus will evolve into a quality driven system, with incentives for both doctors and pharmacists determined by the caliber of care that they provide to patients. As the role of the pharmacist evolves, it is imperative for future practitioners to embrace these new aspects of the profession and to promote their progression.

Along with a more value-based ideology, pharmacists will increase their integration with the healthcare team. Past methods of practice have segregated pharmacists from other healthcare practitioners. This future care model emphasizes multidisciplinary teamwork, where pharmacists will work with others to help provide the best possible patient care. This type of partnership will not only improve patient outcomes, but will also help to prevent medication errors and medication side effects, as well as cut down on healthcare costs. Pharmacists will play vital roles in these synergistic relationships because of the profound therapeutic knowledge they can offer to promote patient care and safety. New insurance models will also help to foster the development of a collaborative environment.

Pharmacists must be devoted to continuous learning in order to excel in these current and future roles. The pharmaceutical field is ever

changing; there are constantly new drug therapies and discoveries. Only a small portion of the knowledge that we obtain comes from our pharmacy education. The majority of our pharmaceutical knowledge comes from on-the-job training and educational experiences, such as residency programs and mentorship opportunities. As future and current healthcare practitioners, we have the responsibility to remain up-to-date with the most current clinical guidelines and innovations.

So, how can a student pharmacist be successful in these future roles and show commitment to life-long learning? Well, assimilating into these new duties requires pharmacists to prove that they are medication therapy experts. One can build a strong knowledge base and develop his or herself professionally by continuing education opportunities, involvement in professional organizations, residency experiences, and mentorship. These types of professional development and life-long learning display commitment to the profession; they can help build trusting relationships with other practitioners.

An optimal opportunity for pharmacy students to prepare themselves for future practice is to complete a residency program. Completion of a pharmacy practice residency provides invaluable learning opportunities. Residency programs allow the PharmD graduate to expand on clinical knowledge and learn to pharmacy practice in a clinical setting. A general postgraduate year one (PGY-I) residency provides the opportunity to experience multiple types of pharmacy practice. This helps the pharmacy resident develop passion for specific areas of pharmacy. Not only does a residency program permit students to sharpen pharmaceutical care skills, but it also opens opportunities in advanced practice settings. Completion of a PGY-I residency can lead to the opportunity to complete a PGY-2 specialty residency. Specialty residencies in areas such as oncology, pediatrics, or pharmacy management (among

many others) allow pharmacists to focus on preferred areas. The detailed skills acquired in these residencies prepare pharmacists to provide better care to patients and more effectively collaborate with other medical professionals within the field.

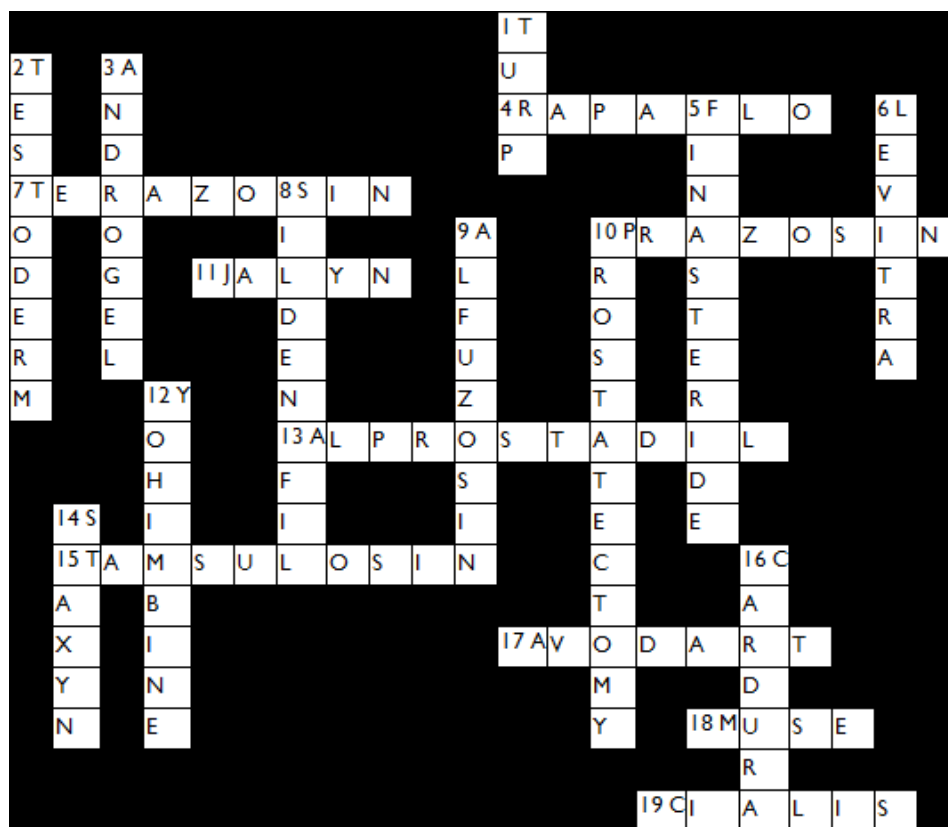
Involvement in professional or state pharmacy organizations is another way to be on the forefront of professional changes. Being a member of these pharmacy organizations provides networking opportunities with colleagues and offers pharmacists a voice in matters that affect their profession. In addition to providing pharmacists with professional opportunities, these organizations allow pharmacists to utilize their knowledge and experiences to advance their profession.

Mentorship and continuing education opportunities prepare pharmacists for future career roles. Teamwork with other healthcare practitioners not only promotes better patient care, but also allows providers to learn from one another. Working with another pharmacy or medical ex-

pert requires a thorough understanding of different topics, which challenges pharmacists to be “on top of their game.” This type of mentorship also provides new outlooks on topics or patient care strategies that were unrealized when working alone.

There is no doubt the pharmacy profession is evolving into a more patient-centered practice. There will be greater focus on the value and quality of care, and partnerships with other healthcare practitioners will be vital. Acknowledging these changes and adjusting to new roles will allow for greater professional success and better patient care. Pharmacists have the exciting opportunity to prepare for these changing roles through completion of a residency program, involvement in professional organizations, and collaboration and mentorship with other healthcare providers. These professional development opportunities come with the responsibility to improve one’s skills through life-long learning.

PUZZLE: CROSSWORD (SOLUTION) BY: MAHDIEH DANESH YAZDI



RHO CHI POST (RHOCHISTJ.ORG)

STUDENT PHARMACIST STAR OF THE MONTH: YINING SHAO BY: MARIE HUANG

Each month, Rho Chi Post has the wonderful opportunity to sit down with an inspiring leader among the student pharmacists here at St. John's University College of Pharmacy and Allied Health Professions – someone who is not afraid to stand apart from the crowd and can be the change he or she wants to see in the world.

This February, Yining Shao, a 4th year PharmD candidate and, as you know, the organization's President, speaks with us about the community involvement, his inspiration, and studying abroad.

Q: It is an honor to be here today with Rho Chi's newly elected president. Tell us, how do you see yourself changing the organization for the better, and through what ways will you reach out to the community of student pharmacists?

A: I plan to expand the organization events to involve not only Rho Chi members but also all of the other students on campus. In order to provide improved events, I am working with the Biology Students Organization (BSO), the Roger Bacon Scientific Honor Society, and other science-related organizations on campus. Currently we are inviting children from the local community to come to our campus and participate in an event called "My Vascular Valentine." During this event, we will teach the children about being "heart healthy."

For more community involvement, I am also planning an event with Marie, the current president of Rho Chi at Long Island University (LIU).

Q: Are there any confirmed dates for these events? In addition, from working with these science organizations, what new ideas can you bring to Rho Chi?

A: We have the "Coffeehouse Chats" event date set for March 29, and on February 14, we will collaborate on "My Vascular Valentine." There are no official dates yet for the other events. The sci-

ence organizations brought up the idea of "My Vascular Valentine." I also learned that they hold an annual Jeopardy game with various science topics. I am trying to have pharmacy organizations included in that event.

Q: Events targeted towards the general populace is a great way to bring the community together. However, one cannot run an event without any supporters. How would you instill motivation and encourage involvement in a student body that is composed of stressed peers and students on APPE rotations?

A: Well, since I am one of those stressed students, I know how it feels. We are planning our events around all of our examination dates and preferably right after major exams. We believe that students can use our events as tools to relax and unwind after a Drugs & Diseases exam. We also encourage students of other years, who are less busy and stressed, to lend us some of their energy and enthusiasm. In addition, our events will be very interesting because they will involve students in the fields that they are learning.

Q: What has been the most rewarding moment or project of your college career?

A: While studying abroad, I experienced the most rewarding moment of my college career; I had the opportunity to volunteer in a soup kitchen in Rome. Speaking with the locals taught me "all people are generally the same." What I mean is that persons from any place, at any age, and of any race, all have their own struggles, beliefs, and dreams. When I keep this idea in mind, it helps me treat strangers, especially in my case, my patients at the community pharmacy, with dignity and equality. I think that this is an especially important lesson for persons in a healthcare profession.

Q: Who is the one person, besides your

parents or family members, who has always served as an inspiration to you? Moreover, why?

A: C. S. Lewis always inspires me. Growing up in a Christian home, I have always had the Christian values, but Lewis makes everything real for me. When I read some of my favorite books by Lewis, things become clearer and more relevant to my life: the state of heaven, good versus evil and human suffering. These are just some of the important things that I often think about, and Lewis has some grasp in explaining such things in a way that I understand and can apply to my own life.

Q: If you had not selected pharmacy or another health-related study, what profession would you have chosen?

A: I have always had a passion for music. I think I would want to be a symphony conductor. There is something about creating beautiful music and stirring emotions in a captive audience. I would start conducting some classics and then, perhaps one day when I am famous, compose my own piece.

Q: Just for fun: if you, Yining Shao, suddenly became the head of the department, what are some of the changes that you would implement to the D&D courses for the classmen who will be taking the modules starting next semester?

A: Hypothetically, I would separate the Drugs &

Diseases courses into two, one-hour classes per day (rather than one, two-hour class). The earlier class would be one focused on medicinal chemistry and pharmacology, while the later one would be about physiology and therapeutics. Professors would receive a template so that students would not have to adapt to each professor's questioning style. To help students practice and understand the important elements, past exams would also be available to students.

Q: Sounds like you have some great ideas brewing! Perhaps the administration can consider your D&D model in the future. If you could only have one meal to eat every day for the rest of your life, what would it be?

A: 梅干菜烧肉 - Mei gan cai shao rou. My grandparents always make it for me when I see them in China.

Q: Thanks for sitting down with us! It has been a pleasure. Do you have any last words for our readers?

A: Remember what Confucius said: "Choose a job you love, and you will never have to work a day in your life."

If you have any additional questions for Mr. Shao, you may contact him at yining.shao08@stjohns.edu

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RHO CHI POST (RHOCHISTJ.ORG)

PUZZLE: WORD SEARCH BY: MARIE HUANG

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FIND THE FOLLOWING WORDS:

ASPIRIN
HEPARIN
CLOPIDOGREL
EPINEPHRINE
ATROPINE
DILTIAZEM
WARFARIN
AMIODARONE
ENOXAPARIN
ALTEPLASE

NOTICE A THEME?

THE RHO CHI POST EDITORIAL TEAM



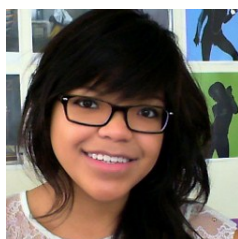
My name is Mohammad A. Rattu, and I am a 6th year PharmD candidate. I have had profound experiences with media-related positions in pharmacy organizations at our university, and continue to support the utilization of technology to further our profession. As the current

Editor-in-Chief of Rho Chi Post, I hope to instill motivation and leadership in our student body. Feel free to get in touch with me at: mohammad.rattu06@stjohns.edu



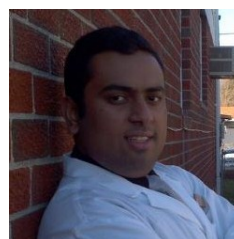
My name is Mahdiah Danesh Yazdi, and I am a 5th year PharmD candidate. I like to stay current with all the changes in our profession, both legal and clinical. I hope to keep you informed with all that I learn. Please enjoy Rho Chi Post, and provide us detailed feedback so that we may

improve our newsletter. If you have any questions or concerns, you can reach me at: mahdiah.daneshyazdi07@stjohns.edu



My name is Marie Huang, and I am a 5th year PharmD candidate. I am in a continuous process of self-definition, and constantly testing the boundaries of this world. I enjoy channeling my inspiration through words and photographs. As a student editor and a witness to an

evolving profession, I look forward to keeping you updated! Who knows where we will be tomorrow? You can reach me at: mary.huang07@stjohns.edu



My name is Ebey P. Soman, and I am a 5th year PharmD candidate. I enjoy writing very opinionated articles, and am excited to be an editor of Rho Chi Post. I encourage all readers of our newsletter (students, faculty, professionals) to respond with their own literary pieces. I

look forward to hearing from you, and welcome your comments and constructive criticisms: ebey.soman07@stjohns.edu



My name is Neal Shah, and I am a 5th year PharmD candidate. I frequently assist several professors on campus with their research. My goal is to provide my fellow students with research-based information that correlates with clinical pharmacotherapy. If you have any topics of

interest or comments on currently-published articles, please do not hesitate to email me at: neal.shah07@stjohns.edu



My name is Shannon Tellier and I'm a 5th year PharmD candidate. I believe it is extremely important for pharmacy students and everyone else in the profession to stay informed about current pharmacy events. The Rho Chi Post is a great way to stay informed and to continue

learning about pharmacy information that is pertinent to our campus and the nation. Feel free to contact me at: shannon.tellier07@stjohns.edu



My name is Mohamed Dungersi, and I am a 5th year PharmD candidate. I am excited to continue the hard work put into this newsletter, especially since its inception during my term as president last year. I am enthusiastic about promoting the pharmacy profession; what better

way to do this than by being a part of the Rho Chi Post? Should you have any comments or concerns, feel free to contact me at: mohamedjameel.dungersi07@stjohns.edu



Attention!

We are looking for creative and motivated students in the 4th and 5th years of pharmacy school. If you are interested in becoming a full-time student editor or would like more information about the responsibilities that the position entails, please contact us via email: rhochis@gmail.com

RHO CHI

The Rho Chi Society encourages and recognizes excellence in intellectual achievement and advocates critical inquiry in all aspects of Pharmacy.

The Society further encourages high standards of conduct and character and fosters fellowship among its members.

The Society seeks universal recognition of its members as lifelong intellectual leaders in Pharmacy, and as a community of scholars, to instill the desire to pursue intellectual excellence and critical inquiry to advance the profession.

THE RHO CHI POST

MISSION

The Rho Chi Post aims to promote the Pharmacy profession through creativity and effective communication. Our publication is a profound platform for integrating ideas, opinions, and innovations from students, faculty, and administrators.

VISION

The Rho Chi Post is the most exciting and creative student-operated newsletter within the St. John's University College of Pharmacy and Allied Health Professions. Our newsletter is known for its relatable and useful content. Our editorial team members are recognized for their excellence and professionalism. The Rho Chi Post sets the stage for the future of student-run publications in Pharmacy.

VALUES

Opportunity, Teamwork, Respect, Excellence

GOALS

1. To provide the highest quality student-operated newsletter with accurate information
2. To maintain a healthy, respectful, challenging, and rewarding environment for student editors
3. To cultivate sound relationships with other organizations and individuals who are like minded and involved in like pursuits
4. To have a strong, positive impact on fellow students, faculty, and administrators
5. To contribute ideas and innovations to the Pharmacy profession

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Bethsy, Albana, Yining, Elizabeth, and Aleena at the 2012 Induction Ceremony

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UPCOMING EVENTS

Feb. 1st: PCOA Examination (MAR AUD, 5pm)

Feb. 2nd: APhA-ASP GBM (SUL B-14, Common Hour)

Feb. 6th: APhA-ASP Annual Meeting Q&A (SUL B-14, 2pm)

Feb. 7th: Local Pharmacist Security Summit

Feb. 13th: SGI Organization Congress (DAC 416, 3pm-5pm)

Feb. 14th: My Vascular Valentine (Bent 277B, 11am-1pm)

Feb. 27th - Mar. 3rd: Spring Break

Mar. 8th: NYCSHP Pharmacy Student Roundtable Session (NYU, 6pm-8:30pm)

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