

RHO_{Rx}CHI post

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- IN THE NEWS / POLITICS
- LOCAL EVENTS
- CLINICAL ARTICLES
- PROFESSIONAL ADVICE / OPINIONS
- PUZZLES
- CURRENT EDITORIAL TEAM

A STUDENT-OPERATED NEWSLETTER BY THE
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Inside This Issue

Meet the Air Force	1
Accountable Care Orgs	2
Antibiotics	5
Pradaxa vs. Warfarin	6
Off Label Antidepressant	9
Look Alike Sound Alike	13
Puzzle Answers	14
Quote of the Month	14
Editorial Team	15
Upcoming Events	17
About Us	17

Meet the Air Force: Dr. Joanne Bollhofer-White

By: Melissa Roy Co-Copy Editor [Graphics focused]

Many people do not realize the opportunities that are available to pharmacists. Joanne Bollhofer-White has taken the path less traveled by entering into the Air Force. Her position in the military has allowed her to travel all over the country while serving her country. The Air Force has afforded her the opportunity to work in diverse and unique pharmacy settings. Her military service has helped her to further her degree. Currently, Joanne Bollhofer-White, BSP Pharm, MS, MBA, PharmD is a pharmacist at the University of Maryland/Charles Regional Medical Center in LaPlata Maryland. Her duties as a pharmacist include: Medication Safety Monitoring, Clinical Pharmacy Analyst, and Controlled Substance Medication Analyst.

She is a St. John's University alumna and was active in the Air Force for 20 years. Her experiences display how far and wide a degree can take you, if you are willing to take a chance.



U.S. AIR FORCE

Interview Continued on Page 11

Single Line Stories

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Accountable Care Organizations

By: Stephanie Chiu and Elissa Tam, PharmD Candidates c/o 2015

According to the Dartmouth Atlas project, health care spending in the United States has risen dramatically and yet health outcomes are not improving; meanwhile, many other countries that spend far less per person than the United States have better health outcomes.¹ Studies have since displayed that higher spending did not necessarily lead to improved patient perceptions of the accessibility or quality of medical care and that higher volume of care does not produce better health outcomes for patients.¹ This means that many of the health services administered in the United States are what experts call “excess” care: services that are costly but provide no additional measurable benefit to patients. In fact, researchers estimate that up to 30 percent of current health care spending is wasteful.¹ The significant variation in health service usage and spending suggests that large savings could be found within the current Medicare system. Specifically, hospitals and their affiliated physicians should be able to reorganize their treatment services to provide the same quality of care using fewer services and at lower costs. Transitioning from a Medicare pay-for-service payment model – doctors and hospitals generally paid for each test or procedure – to a pay-for-performance model was made possible by the creation of accountable care organizations (ACOs). Since institutions would be rewarded for performance, quality measures were implemented to assess quality of care and patient outcomes.¹

What are ACOs?

Since the Affordable Care Act was passed, more than 250 ACOS have sprung up.² ACOs are networks made up of physicians, hospitals and other health care providers that share financial and medical responsibility for providing and coordinating high-quality patient care, especially to chronically ill patients by limiting avoidable expenses and preventing medical errors. Health care providers volunteer to participate in a network.³ The ACOs are rewarded financially with shared bonuses by the Centers for Medicare and Medicaid Services (CMS) for being

This means that many of the health services administered in the United States are what experts call “excess” care: services that are costly but provide no additional measurable benefit to patients. In fact, re-searchers estimate that up to 30 percent of current health care spending is wasteful.

cost-effective and performance is based on quality measures.⁴ Thus, these health care providers become eligible for bonuses when they deliver that care more effectively. Under the Affordable Care Act, each ACO is accountable for the health care

of a minimum of 5,000 Medicare beneficiaries for a period of at least three years.² Unlike some insurance plans, Managed Care Organizations (MCOs) or Health Maintenance Organizations (HMOs), an ACO cannot restrict a Medicare beneficiary from seeing any health care provider.⁵ Medicare beneficiaries have the right to pick any physician or hospital that accepts Medicare at any time, even if the hospital or physician is not part of an ACO.

Types of ACOs

There are currently various models of ACOs. One such model is called the Advance Payment ACO Model, in which selected participants receive advance payments that will be repaid from the future shared savings they earn.⁶ Such a model is meant to

help entities such as smaller practices and rural providers with less access to capital and targets specifically two types of organizations: 1) ACOs that do not include any inpatient facilities and have less than \$50 million in total annual revenue, and 2) ACOs in which the only inpatient facilities are critical access hospitals and/or Medicare low-volume rural hospitals and have less than \$80 million in total annual revenue.⁶ These rural providers and rural hospitals may not have the necessary amount of money to build the infrastructure necessary for coordinated care – thus, they can apply to receive payments in advance and pay off the payments later in the future.

Another model created is called the Pioneer ACO model, a program created for those who adopted coordinated care early. This model is intended for health care organizations and providers with experience in coordinating care for patients across care settings.⁷ Before ACOs were created and established, there were already large multi-specialty physician groups that became ACOs on their own by networking with neighboring hospitals.² Because they already have experience in managing patient care across various care settings, the program was set up for these programs to pocket more of the expected savings in exchange for taking on greater financial risk.²

Quality Measures

As previously mentioned, the performance of each ACO is measured based on quality outcomes and such measurements determine the scope of monetary rewards and benefits earned. Essentially, these health care providers are paid more for keeping their patients healthy and out of hospital. CMS has created 33 quality measures focusing on patient/caregiver experience, care coordination/patient safety, preventive health, and at-risk population.⁴ Of the 33 measures, 7 measures of patient/care giver experience are captured using the Consumer Assessment of Healthcare Providers and Systems (CAHPS)

survey. These surveys are administered yearly to patients that participate in these Medicare ACOs. Three are measured using claims, one is measured using the Medicare and Medicaid Electronic Health Records (EHR) and 22 are measured using the ACO Group Practice Reporting Option (GPRO) Web Interface.⁴ These areas of measurements evaluate various domains such as how well the doctor communicates with the patient, ratings of the doctor, health promotion and education, shared decision making, medication reconciliation, and screening assessments for mammography, depression and weight. If the ACO does not meet savings and performance targets, they may have to pay a penalty, although currently no penalties have been established.

Role of Pharmacists in ACOs

Over the past 25 years, studies have demonstrated that pharmacists participating in team-based care models have made positive contributions to patient care and safe medication use.⁸ Pharmacists are well trained in pharmacotherapeutics and can help optimize appropriate medication use, reduce medication related problems, and improve health outcomes. By incorporating pharmacists into the ACO model, it will help better effectively coordinate and improve quality of care. Organizations across diverse care settings are already implementing pharmacy services, including medication therapy management (MTM).⁸ Pharmacists and their skills are currently utilized in clinics for lipid and hypertension, anticoagulation therapy, and transplant programs. They also participate in brown bag events during which patients bring their home medications in for pharmacists to evaluate and counsel on. Furthermore, many of these activities implemented are evaluated as part of the CMS quality performance standards for ACOs, which include medication reconciliation and appropriateness of therapy in at-risk populations with disease states such as diabetes, heart failure, and chronic obstructive pulmonary disease (COPD).⁸

Pharmacists are already integrated in various medical model groups. For example, HealthCare Partners, a group based in California, employs pharmacists to monitor and manage patients taking warfarin through face-to-face clinic visits and telephone calls for patients in outlying areas. These pharmacists work alongside more than 1,200 employed and affiliated primary care physicians and more than 3,000 employed and contracted specialists, as well as over 50 clinics and contract with more than 57 hospitals within Los Angeles and Orange counties.⁸ In addition, pharmacists in the group monitor patient labs, educate patients on taking their medications, assess adverse events and adherence to therapy, and recommend dosing adjustments/alternate therapies when needed in order to prevent potential hospitalizations and severe side effects. Protocols are set up for pharmacists to approve refills and move patients to lower cost medications, when appropriate. This program reduces physician time to manage patient refill requests and improves the overall group's performance.⁸

Overview

For many years, health practitioners followed the fee-for-service approach. Patients were charged per each consultation, service or test. However, despite the high costs of health care, it appeared that patient outcomes did not improve nor did the rate of mortality curb. In pay-for-service, it gives incentive for physicians to provide more treatments because payment is dependent on quantity of care, rather than quality of care. Moreover, because many people see multiple doctors and there is lack of communication among these physicians, doctors may duplicate certain therapies, which raises health care costs and impacts the patient's care. With the new Affordable Care Act, ACOs create incentives for health care providers to work together to treat an individual patient across various care settings, including doctor's offices, hospitals, and long-term care facilities. ACOs make providers jointly accountable for the health of their patients and thus, for ACOs to work,

providers have to seamlessly share information.² Furthermore, the incentives behind ACOs are to reduce hospital stays, emergency room visits and expensive testing services. These ACOs are rewarded when they meet performance standards on quality of care and reduce the growth of health care costs. Recent data suggests that by moving patients from uncoordinated care systems to integrated care systems with targeted interventions and coordination across providers, costs of care could be reduced by 35 percent.⁸ The hope is that implementation of pay-for-performance and interdisciplinary care will combine quality and efficacy incentives to produce cost savings. Pharmacists have the opportunity to become vital components of the new model.

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The Silver Age of Antibiotics

By: Andrew Leong, Staff Writer

This year, the FDA approved three new antibiotics to treat acute bacterial skin and skin structure infections (ABSSSI) caused by *Staphylococcus aureus*, including MRSA. They are dalbavancin (Dalvance™), tedizolid phosphate (Sivextro™), and oritavancin (Orbactiv™). Dalbavancin was approved on May 23, 2014 and is administered intravenously in two doses (1000 mg, 500 mg), one week apart.¹ Tedizolid phosphate was approved on June 20, 2014 and is administered intravenously as a 200 mg dose once daily for six days. It is also available orally as a 200 mg dose.² Oritavancin was approved on August 6, 2014 and is administered intravenously in a single 1200 mg dose.³

The consecutive approvals of these antibiotics represent the federal government's proactive effort in the battle against resistant strains of bacteria. Nearly half of the antibiotics used today were discovered during the 1930's to the 1960's.^{4,5} It was thought that this "golden age of antibiotics" would combat all infectious diseases. Unfortunately, this is not the case today.

The problem of antibiotic resistance stems from the fact that bacteria undergo genetic changes and, thus, can pass down resistance to its progeny. One way these changes occur is through spontaneous mutation. Bacterial cells develop enzymes that inactivate antibiotics, and pump mechanisms that export antibiotics outside of the cell, to name a few. Another way resistance can propagate is through inappropriate antibiotic consumption. For example, since antibiotics are to be used against bacterial infections, a doctor prescribing an antibiotic for a patient with the common cold would be contributing to the development of resistant strains of bacteria.

The World Health Organization (WHO) and other healthcare organizations around the world are well aware of this problem and have voiced their concerns and strategies several times this year. In April, the WHO remarked, "a post-antibiotic era – in which common infections and minor injuries can kill – far from being an apocalyptic fantasy, is instead a very real possibility for the 21st Century."⁶ In June, the British public voted to put forth a fund of £10 million towards "[tackling] growing levels of antimicrobial resistance."⁷ In September, the White House released an executive order for combating antibiotic-resistant bacteria with hopes to "work domestically and internationally to prevent, detect, and control illness and death related to infections caused by antibiotic-resistant bacteria by implementing measures to mitigate the emergence and spread of antibiotic resistance and ensuring the continued availability of therapeutics for the treatment of bacterial infections."⁸

This executive order is in line with the FDA's 2013 provision, the Generating Antibiotics Incentives Now (GAIN) Act. Under this Act, certain antibiotics are reviewed in an expedited manner, "typically shaving four months off review times."⁹ To have this priority, an antibiotic must be given Qualified Infectious Disease Product (QIDP) designation through its ability to target a select list of 21 life-threatening pathogens including *Candida*, *Streptococcus*, and *Staphylococcus* species.

Dalbavancin is the first drug to receive QIDP designation for treatment of *Streptococcus* and *Staphylococcus* species. Tedizolid phosphate and oritavancin were also given QIDP status prior to their approvals.

BACK TO COVER

There is still a long way to go before the problem of microbial resistance is solved. Nonetheless, the federal government is providing the pharmaceutical industry flexibility during the new drug application process and these three recent drug approvals are products of the federal government's efforts against growing resistance. As pharmacists and health professionals, we can also help by identifying signs of non-adherence in patients and counseling them about the importance of taking the antibiotic as prescribed, both in terms of regimen and duration of treatment. By monitoring and informing patients about the correct use of antibiotics, we can contribute the fight against antibiotic resistance, patient by patient.

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Pradaxa® vs Warfarin

By: Kevin Lin, PharmD Candidate c/o 2015

The FDA recently completed an observational cohort study that compared Pradaxa® (dabigatran) to warfarin for rates of ischemic stroke, intracranial hemorrhage, major gastrointestinal bleed, myocardial infarction, and death. The study enrolled more than 134,000 patients, with 64% over the age of 65 and found a lower risk of stroke (0.8 times), intracranial hemorrhage (0.34 times), and death (0.86) with dabigatran. The risk of major GI bleed, however, was 1.28 times higher for dabigatran compared to warfarin.¹

Warfarin and dabigatran are common anticoagulants used to prevent stroke. Warfarin is indicated for prophylaxis and treatment of venous thrombosis, pulmonary embolism, complications associated with atrial fibrillation, cardiac valve replacement

and reduction in risk of death, myocardial infarction and stroke. Warfarin works by inhibiting vitamin K epoxide reductase. This prevents activation of clotting factors II (thrombin), VII, IX, and X. Warfarin has no effect on fully activated factors in circulation, so the full anti-thrombotic effect of warfarin is not achieved until the activated clotting factors are cleared. This equates to about the fifth day of therapy. Due to the slow onset of action of warfarin, patients are temporarily anticoagulated with a fast-acting agent, typically heparin.²

Dabigatran is a reversible, competitive direct thrombin inhibitor. Thrombin is an enzyme which converts soluble fibrinogen to fibrin, the major component of blood clots. The onset of anticoagulation is within 0.5 - 2 hours after administration.³ This elimi-

BACK TO COVER

nates the need for heparin bridge therapy when initiating dabigatran or during a treatment hiatus due to surgery. Dabigatran also has the same indications as warfarin except for its contraindication in patients with mechanical heart valves.⁴

To maximize safety and efficacy, each anticoagulant has its own considerations. For warfarin, an international normalized ratio (INR) is used for monitoring. The INR is derived from prothrombin time—a test that measures the time it takes for blood to clot. Warfarin dose is individualized to a goal INR of 2-3 but can be higher in certain cases, such as in patients with a mechanical mitral heart valve.² Once stabilized, patients still need to be monitored as frequently as every 12 weeks.⁵ Unlike warfarin, dabigatran dosing requires adjustment in renal dysfunction. Patients with a creatinine clearance >30 mL/min take 150 mg twice daily, while those with a creatinine clearance between 15-30 mL/min take 75 mg twice daily.⁴ Although there are no dosage recommendations for a creatinine clearance <15 mL/min, the American College of Cardiology does not recommend dabigatran in these patients.⁶

In the event of a serious bleed, warfarin can be reversed with vitamin K administration. However, as vitamin K generally takes 12 to 14 hours to reverse anticoagulation, it is typically given with fresh frozen plasma which can fully reverse the effects of warfarin.⁷ With this in mind, dietary vitamin K needs to be kept consistent for patients on warfarin therapy. Unlike warfarin, management of a dabigatran bleed is not as clear. It remains largely supportive with transfusions of red blood cells, dialysis and fluid replacement. A prothrombin complex concentrate can be considered in those with a life threatening bleed but clinical evidence is lacking.⁸ Therefore, a serious bleed with dabigatran becomes more problematic.

Although recent FDA observational trials show a greater risk of GI bleeding with dabigatran compared to warfarin in older patients, these findings are not surprising, as they are consistent with previous trials, such as the RE-LY trial. RE-LY is the original trial that resulted in the approval of dabigatran. Thus, the FDA's recommendations on dabigatran's place in therapy have not changed. The FDA recommends that "patients should not stop taking Pradaxa®... health care professionals who prescribe Pradaxa® should continue to follow the dosing recommendations in the drug label."² In consideration,

patients with GI problems may be better candidates for warfarin therapy. There is not only a lower incidence of GI bleed but also a lower incidence of GI adverse reactions (0.69 times) such as dyspepsia and gastritis-like symptoms.⁸

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Off-Label Antidepressant Use in Pediatric Patients with Autism

By: Jacqueline Meaney, PharmD Candidate c/o 2015, University at Buffalo: School of Pharmacy and Pharmaceutical Sciences

CLINICAL

Psychotropic medications are typically used in conjunction with cognitive behavioral therapy to treat behavioral problems that affect children with autism spectrum disorder (ASD). Symptoms of ASD typically include a need for routines (change intolerance), difficulty with verbal and nonverbal communication, difficulty with social interactions and relationships, and ritualistic or repetitive behaviors which are commonly seen in people with Obsessive-Compulsive Disorder (OCD).¹ Currently, risperidone is the only FDA-approved medication to treat the symptoms of ASD in pediatric patients. However, off-label prescribing of antidepressants, particularly, selective serotonin receptor inhibitors (SSRIs) are used in managing symptoms of ASD.

Autism is similar to other mental health conditions in that abnormalities in serotonin function are present in patients with autism spectrum disorder. As a result, physicians often prescribe selective serotonin reuptake inhibitors (SSRIs) off-label to treat symptoms of ASD.² Fluoxetine has shown mixed results when used to treat obsessive-compulsive behaviors associated with autism. Some studies have demonstrated a significant effect while other studies failed to show clinically significant differences between treatment and placebo groups.³⁻⁵ Citalopram, another SSRI, has not shown significant improvement when used to treat core and non-core symptoms of autism spectrum disorder. In fact, treatment with citalopram in children with autism resulted in an increased rate of adverse events compared to children taking placebo, and as a result, citalopram is not recommended for the symptomatic treatment of ASD.⁶

Sertraline, which is in the same class of medications as fluoxetine and citalopram, has not been well-studied in autistic children with repetitive behaviors, but it has been shown to be effective in reducing repetitive behaviors in adults with autism.⁷ Sertraline is currently FDA-approved for the treatment of obsessive-compulsive disorder (OCD) in children ages 6 and older. For the treatment of OCD, children over 6 years of age should be started on 25 mg of sertraline daily, and titrated upwards if necessary to a

maximum oral dose of 200 mg daily.^{8,9} Since sertraline is not FDA-approved for the treatment of autism in children, this dosing information cannot be directly applied to autistic pediatric patients. While it is also not approved for the treatment of obsessive-compulsive symptoms of children with autism, it has often been used for the treatment of repetitive behaviors associated with this condition. The efficacy of sertraline for the treatment of change intolerance in autistic children was shown by a small open study assessing the effects of a 25-50 mg daily dose of sertraline in a group of 9 children aged 6-12 who presented with anxiety or agitation as a result of changes in their daily schedules. Sertraline was shown to be safe and effective at this dose over a period of 6 months for the treatment of change intolerance in these children.⁸ However, additional research is needed to determine the efficacy and safety of sertraline in children with ASD. A 2013 meta-analysis showed that there were no randomized controlled trials (RCTs) evaluating sertraline for use in autism spectrum disorder. However, there is currently one ongoing phase 3 RCT that is evaluating the use of fluvoxamine and sertraline in children with autism. These children will be started on 12.5 mg of sertraline for 8 weeks and then will be titrated upwards to a higher dose for another 8 weeks if no therapeutic response is seen at the initial dose. Overall, the use of sertraline in children with ASD is based on case reports and the clinical observation of physicians and the results of small, open, observational studies.⁶

In 2004, the FDA released a boxed warning for all antidepressant medications to warn the public that antidepressants may cause an increased risk of suicidal tendencies in children and adolescents. Patients should be closely monitored for signs of unusual changes in behavior, severe mood swings, or worsening depression during treatment.⁹ Therefore, it is important to use caution when prescribing these medications in patients younger than 25 years of age. The lowest effective dose should be prescribed and any side effects should be reported immediately.

Overall, further research is needed in order to prove that sertraline is safe and effective for use in pediatric patients with autism spectrum disorder. Although SSRIs have been shown to be effective in small open studies in treating symptoms of ASD, weaknesses in many of them suggest that further research is needed. Sertraline may be prescribed off-label to treat symptoms of autism by an experienced pediatrician or child psychiatrist who feels that the benefits of this medication outweigh the risks for the child being treated. Titration to doses greater than 50mg per day is not advised, as there are no reliable studies documenting safety and efficacy of sertraline for the treatment of autism at greater doses. Children taking sertraline for the symptomatic treatment of ASD should be closely monitored for adverse reactions, and the medication should be discontinued if there is no perceived efficacy or if adverse events arise.

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Interview: Air Force Pharmacist: Joanne Bollhofer-White

By: Melissa Roy Co-Copy Editor [Graphics focused]

What college/ university did you attend? How was one unique way that your school helped you pursue your current career path?

St John's University; College of Pharmacy and Allied Professions (BS Pharm 1985/ MS (Industrial Pharmacy) 1989. The student population at St. John's was very diverse (especially during my graduate studies) and it helped me relate to multiple cultures (both as colleagues and patients).

In your opinion, what course was the most beneficial towards your career and why?

For me it was Clinical Therapeutics. This class displayed the patient as a whole, rather than just organ systems. In my present job, I provide clinical pharmacy services and having this background has been very valuable.

Why did you decide to pursue an unconventional career path, if you could go back and start over again would you pick a different path?

I had finished my master's degree, and for a variety of reasons, I decided not to pursue my doctorate. While working at a small community pharmacy, I received a letter informing me of opportunities in the Air Force, including educational opportunities. Over the course of the next year, I worked with an Air Force recruiter (a former pharmacy technician) and took the oath of office in Feb 1991.

From 1991 to 1995 I was stationed at McGuire Air Force Base (AFB), NJ. The hospital at Ft Dix was closing and the Air Force moved the small clinic to the hospital without impacting patient care. We also brought on a new computer system and I was responsible for building the medication data base.

In 1996 I was reassigned to Reese AFB, TX, until 1997. The base was in the process of closing (due to the Base Realignment and Closure committee recom-

mendations). I was responsible for scaling back the pharmacy and readying patients to transition to civilian care.

After I went to Eglin AFB, FL, until 2000. I was responsible for the inpatient pharmacy, to include chemotherapy. I had not worked inpatient much up till then, so I had to do a lot of OJT. I also brought a reverse distributor online, so we could recoup some of the money spent on expired products and expand our formulary.

Next I was stationed at Kirtland AFB, NM. Here I oversaw both main and satellite pharmacy locations. During this time, the pharmacy was redesigned and two automated dispensing machines (PharAssist & ScriptPro) were installed. The medical group also went through two Joint Commission inspections & passed both.

In 2009 I was transferred to Bolling AFB, DC. As the senior officer, I was placed in charge of Diagnostic Imaging and Clinical Laboratory services. I also oversaw the pharmacy at a clinic at the Pentagon, providing care for many high ranking Air Force officers. I also worked with the DC Department of Health to ensure access to the Strategic National Stockpile.

Then in 2011 I went to Andrews AFB, Md. During my first year, I was responsible for overseeing the refill pharmacy. We dispensed over 600 prescriptions daily. The second, and last year of my military service, I was at the main pharmacy as Assistant Department Chair. I worked on updating the Pharmacy & Therapeutics function meeting as well acting as the Medication Safety Officer.

Overall, I enjoyed my time in the military. It gave me the opportunity to see parts of the country I had not ever thought I would see. I was able to get involved in the administration of a pharmacy from the outset, something that would have taken many more

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years in the civilian world. I was able to obtain two additional graduate degrees (MBA and PharmD) using my GI Bill. This is something that would have been difficult if I would have had to pay for on my own.

Prior to getting the information about the opportunities offered by the Air Force did you ever entertain or even know about such job opportunities?

To tell you the truth, I had NEVER considered the military as a career (and didn't even know about it as an option for pharmacists). But the opportunity to go back to school & not have to pay for it was enticing.

What is the best aspect of your current job?

Impacting patient care. We perform anti-coagulant teaching & helping a patient understand the im-

portance of taking this medication properly is critical so they do not experience another blood clot or unexpected bleed.

During my time in the military, I was able to impact formulary decisions. This directly affected the patients I saw on a daily basis—to make sure we had the best options available, within the budget I was provided.

What is the worst aspect of your current job?

The constantly changing schedule. I would be scheduled to work in the morning one day and then to work in the evening on the next day. While I was in the military, it was unpleasant moving every few years. I enjoyed learning about new parts of the

country—but packing/unpacking, finding a new vet, etc is a challenge.

Did you have a mentor? How did they help your career? If not, what is your opinion of mentors?

No. Unfortunately, my first assignment was at a small clinic where I was the only pharmacist (and my supervisor was a physician). I think a mentor would have been a great help. He/she could provide immediate feedback on performance and help to grow skills useful in the current job and for future.

Of all the places you have been stationed which was your favorite, and why?

My favorite assignment was at Kirtland AFB in New Mexico. There was so much to do—skiing in the winter, white water rafting in the summer. Also,

there were a number of cultural activities (plays, a community orchestra) as well as a Triple A baseball team (the Iso-

topes). Finally, there were large Hispanic and Native American communities—so I learned a good amount about them.

What is one piece of advice you would provide future pharmacists as they begin to look at various career options?

Don't be afraid to think outside your comfort zone. I had never considered the military as a career, but making that choice allowed me to do many things I could not have done anywhere else.

The Rho Chi Post wants to thank Joanne Bollhofer-White for sharing her time and expertise with us. We hope that this interview highlights potential career paths for our future pharmacists!

Don't be afraid to think outside your comfort zone.

Went to an event on your campus?

Learned something interesting?

Write to our editors at RhoChiPost@gmail.com



By: Sherine Jaison
PharmD Candidate
Class of 2015

Many drugs
LOOK – ALIKE
OR
SOUND– ALIKE

causing them to be
easily mixed up in
practice.

Can **YOU** match these
facts with the correct
medication?

Answers

Matching Column: Look-Alike Sound-Alikes

1. A category X medication used in the management of obesity
2. This medication is administered subcutaneously every 4 weeks
3. Contraindicated in patients with a history of bowel obstruction and when triglycerides >500mg/dL
4. Blurred vision, burning and stinging are common side effects associated with the medication
5. Used in the treatment of prostate cancer
6. An abrupt change in dietary habits while on this medication is not recommended
7. This antihistamine has to be adjusted according to the patient's renal function
8. This medication has an off-label indication to treat C.difficile associated diarrhea
9. An anticoagulant that should not be used when CrCL<30mL/min
10. An antidepressant that can be used in smoking cessation

- A. Wellbutrin
- B. Welchol
- C. Warfarin
- D. Xalatan
- E. Xarelto
- F. Xgeva
- G. Xifaxan
- H. Xtandi
- I. Xyzal
- J. Xenical

How Did You Do???

Answers to Crossword & Look Alike and Sound Alike

A. 10 B. 3 C. 6 D. 4 E. 9 F. 2 G. 8 H. 5 I. 7 J. 1

*As we work to create **light**
for others, we naturally **light**
our own way*

Mary Anne Radmacher

PUZZLES

Do you enjoy our puzzle?

Send us a suggestion for a brainteaser at

RhoChiPost@gmail.com

We will feature your work in our next issue!

RHO CHI POST: TEAM MEMBERS



@ Katharine Cimmino (6th Year, STJ; Editor-in-Chief)

I have always been an avid reader and writer. As a member of the Rho Chi Post I am able to merge my passions with the professionalism that comes with aspiring to be a healthcare provider. I am eager to be a part of a publication that promotes my interests and vocation.



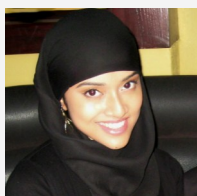
@ Bharat Kirthivasan (PhD, Co-Copy Editor [Content-Focused])

I am a doctoral candidate in Industrial Pharmacy researching nanoparticles for delivery to the brain. The only thing I enjoy more than reading a well-written piece of work is writing it. I am glad to work for the Rho Chi Post, and I encourage others to do the same.



@ Hayeon Na (6th Year, STJ; Co-Copy Editor [Content-Focused])

Hello! My name is Hayeon Na. I am a 2015 PharmD Candidate and one of the Copy Editors for the Rho Chi Post. I hope the information I present will be helpful, or at least interesting. If you have any comments regarding my contribution, feel free to contact me at any time!



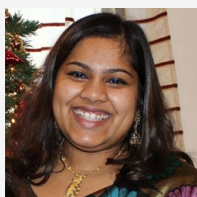
@ Tasnima Nabi (5th Year, STJ; Co-Copy Editor [Content-Focused])

Writing has always been my greatest outlet for experience and knowledge, through which I hope to keep you engaged and informed. It is imperative to keep up with our changing profession and community, and I look forward to bringing pertinent information to the newsletter.



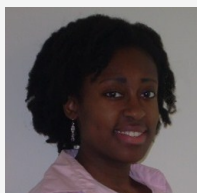
@ Erica Dimitropoulos (6th Year, STJ; Co-Copy Editor [Content-Focused])

As busy student pharmacists, we often fail to keep current with healthcare developments. My aim is to sort through the news and provide quick updates that are important to our profession. Feel free to contact me if there are any topics you would like to see covered in the next issue!



@ Melissa Roy (6th Year, STJ; Co-Copy Editor [Graphics-Focused])

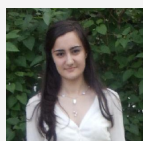
We as future healthcare professionals owe it to our patients and ourselves to be aware and current on the events affecting our profession. The Rho Chi Post is our way to learn new things and stay in touch with the pharmacy world, on- and off-campus. Feel free to reach out to me with suggestions and comments.



@Davidta Brown (4th Year, STJ; Senior Staff Editor)

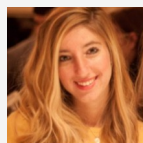
My two great loves are innovative science and quality writing, and the Rho Chi Post is an insightful combination of both. As an editor, I look forward to bringing relevant information and fresh perspectives to the student and faculty of St. John's University, as well as to making the Rho Chi Post a newsletter that offers something new to every reader.

RHO CHI POST: TEAM MEMBERS



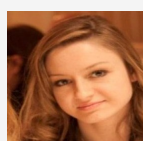
@ Tamara Yunusova (4th Year, STJ; Senior Staff Editor)

My name is Tamara Yunusova, and I am a 3rd year Pharm D candidate at St. John's University. I enjoy articulating information in a captivating and insightful way. I hope to make this publication more informative, student-friendly, and innovative.



@ Beatrisa Popovitz (6th Year, STJ; Senior Staff Editor)

I am eager to relay current information on interesting topics making waves in the world of healthcare pertinent to the advancement of our profession. As student pharmacists, we are molding the future of our profession, and the Rho Chi Post facilitates the cultivation of a relationship (between students, faculty, and other members of the healthcare community) to share ideas and spread awareness of various issues.



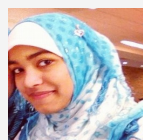
@ Ada Seldin (6th Year, STJ; Staff Editor)

I am thrilled to have become a new member of the Rho Chi Post team. I hope to further strengthen the goals of this newsletter and make a lasting contribution. It is important, as future pharmacists, to collaborate with our peers, as well as accomplished professionals in the field. Rho Chi Post provides a vehicle to voice our opinions and share relevant news.



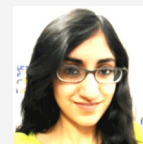
@ Sang Hyo Kim (3rd Year, STJ; Staff Editor)

Advancements of technology and developments of new medicines, prolonging the lifespan and improving the quality of life, have increased the geriatric population. In years to come, pharmaceutical industries and healthcare systems will persistently work to find solutions to changing demands and new problems of the society. Through the Rho Chi Post, I wish to learn, educate, and prepare myself and others for the future.



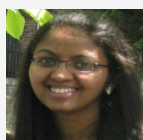
@ Fatema Elias (5th Year, STJ; Staff Editor)

I am honored to be a part of the Rho Chi Post team. In this age of technology and the continuously changing healthcare profession, I hope to engage like-minded students and professionals. Writing is something that I hold dear to my heart and I hope with this newsletter we can all stay well informed, interested, and educated.



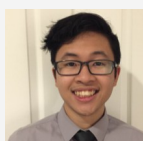
@ Azia Tariq (4th Year, STJ; Staff Editor)

The Rho Chi Post is a prominent and highly esteemed resource for pharmacy students and professionals. I am privileged to be a part of the team and hope to contribute informative and engaging pieces to the newsletter.



@ Sherine Jaison (6th Year, STJ; Staff Writer)

I find the Rho Chi Post extremely informative and am eager to join the team. I hope my articles will enlighten you about the recent developments in the field of pharmacy and will help you to be a well-informed healthcare provider.



@ Andrew Leong (5th Year; STJ; Staff Writer)

Students have to do more than what is required of us in classes to truly learn about our profession. That's why I joined the Rho Chi Post. This publication represents a channel by which our team members, faculty, and readership can share information - something I believe is important in this ever-changing pharmacy world.



@ You!

We are always looking for creative and motivated students to join our team! If you are interested in becoming an editor for the Rho Chi Post, please visit:
<http://rhochistj.org/RhoChiPost/EditorApplication>

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 is a monthly, electronic, student-operated, faculty-approved publication that 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 aims to become the most exciting and creative student-operated newsletter within St. John's University College of Pharmacy and Health Sciences. Our newsletter continues to be known for its relatable and useful content. Our editorial team continues to be known for its excellence and professionalism. The Rho Chi Post essentially sets the stage for the future of student-operated 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

CURRENT EXECUTIVE BOARD



Anthony, Tyler, Sara, Tasnima, Joshua, Fawad at the 2014 Induction Ceremony

President: **Tyler Valente**

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Secretary: **Tasnima Nabi**

Treasurer: **Anthony Nania**

Historian: **Sara James**

Media Relations Coordinator **Joshua Bliss**

Faculty Advisor: **S. William Zito, PhD**

UPCOMING EVENTS

Jan 15-18: 12th Annual Natural Supplements
San Diego, CA

Feb 27– 28: Pharmacy Ownership Workshop
Memphis, TN

Mar 27-30: APhA Annual Meeting
San Diego, CA