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MONOGRAPH

The Voice of the Pharmacy Student

உணவுடன் எடுத்துக் கொள்ளுங்கள்

Inumin ng may laman ang tiyan

اس دوا کو کھا نے کے ساتھ لیں

Prenda questa medicina con il cibo

Tomar come comida

Prenez avec de la nourriture

ਦਵਾਈ ਭੋਜਨ ਦੇ ਨਾਲ ਲਓ

Tomar con comida

和食物同服

Take with food

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Monograph is impossible without writers like you!

EDITOR'S ADDRESS

The Calm Before the Storm

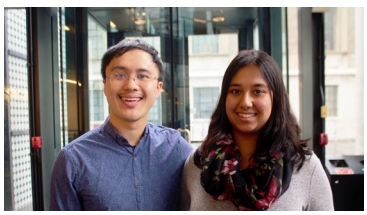
We would like to give everyone a warm welcome back from reading week. We hope it's been a relaxing time for you as we head into the torrid of midterms, assignments and presentations that usually take place this upcoming week.

This issue of the Monograph celebrates the diversity of pharmacy students who are able to speak more than one language, as we present common pharmacy counselling phrases in ten common languages spoken across the GTA.

We have more exciting content for those of you interested in exploring a career in the hospital setting. This issue features a CSHP Spotlight interview with Marisa Battistella and a faculty interview with Naomi Steenhof. Both professors focus on research in hospital practice. For those of you that have been accepted to an international APPE or are interested in one, read about a current APPE student's rotation in Ghana with Linda Dresser!

Finally, why not take some time to de-stress after finishing midterms, perhaps watch a movie (Aquaman maybe?) try a new recipe (Chocolate Banana Bread perhaps?), spendtime with a special someone (5 Great Date Spots?), visit a thought provoking art exhibit (the Death and Dying Exhibit?) or even trying a new game (Kingdom Hearts 3?)!

PAM is just around the corner! We invite you to participate in our writing contest discussing the impact pharmacists make. Each submission must be a minimum of 400 words. Selected articles will be featured in the Monograph, and you also have a chance to win 1 of 4 Cineplex movie tickets. Deadline to submit is Friday March 8th.



Good luck on midterms, assignments, presentations and labs!

Farhat and Michael
The Monograph Co-Editors
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UPS ADDRESS

This March is packed with great initiatives. We have so many great events planned for Pharmacist Awareness Month (PAM). We hope you attend as many events as you can to advocate our profession. We'd like to thank out title sponsor, Pharmasave, for supporting our PAM initiatives this year.

PAM Kick-off Event (PAMBurgers)
UPS and CAPSI will host the first ever PAMBurgers event on Friday March 1, 2019. Delicious homemade PAMBurgers are being grilled up! Dean Allen, along with members of OPA and OCP, were also present for the festive Ribbon Cutting Ceremony!

Semi-Formal: Emerald City
This year, UPS will host our annual Pharmacy Semi-Formal at the Great Hall in Hart House, with the support of our title sponsor, DWL Financial. Thank you to UPS Events Directors Wendy Chen and Catherine Zhu for planning an amazing night! The evening will feature a full course dinner with wine and dancing within the historic venue. It will definitely be a night to remember!

OPSIS
The 8th Ontario Pharmacy Students Integrative Summit will be held in Niagara Falls this year in collaboration with the School of Pharmacy at the University of Waterloo. The three-day conference will take place at Marriott on the Falls for a subsidized cost of $100 (includes transportation, hotel, breakfasts, and dinners). Students from both universities will collaborate in case competitions, debates, panels, and engaging talks.

Once again, we would like to thank CAPSI and all clubs for hosting events to make PAM a huge success!

Matthew and Pamela
UPS President and Vice-President
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CAPSI CORNER

As many of you are aware, CAPSI held its annual Social Media Challenge during February and it was a great success! We gave away Aerochamber backpacks, Starbucks gift cards, and TEVA prize packs (which included water bottles, school supplies, and other goodies). We were impressed by students' creativity and enthusiasm throughout these daily challenges!

During our first challenge, students were asked what their favourite CAPSI event or competition was. It comes as no surprise to us that many students said that Professional Development Week (PDW) was their favourite event! They felt as though it was a great experience to bond with their UofT peers and to meet pharmacy students from all across Canada. Students also seemed to be looking forward to seeing the new talent being showcased at Toronto's Next Top Pharmacist (TNTP) this year! We can't wait for the contestant reveal and are anticipating another sold out event!

On Day 2, students were asked to take a selfie with our CAPSI/IPSF reps and CAPSI National Executive members. Day 3 brought out our pharmacy brainiacs as we tested our students' knowledge using questions from Agro Health's iMCQ practice PEBC question bank. On the final day, students were asked to identify which of the 5 core values of CAPSI is most important to them and which values they felt their peers resonate with the most. It was interesting to see that the most popular answers were academics, excellence, and professionalism!

Perhaps our most important challenge was the discussion we prompted on Day 4. Students were asked to share their thoughts on what improvements they believe can be made to the mental health services that are available to pharmacy students.

Below is an example of one of many excellent suggestions that were made:

Sia Badie (1T9):
"In terms of mental health services, pharmacy faculties need support from the universities to provide PRN services instead of only scheduled appointments. Professional students' stress levels fluctuate so I think if our system is trying to serve us best, it needs to be flexible. To make an analogy: truly accessible health care services should work around the schedules of patients, rather than hoping patients are able to access them in times of need."

Additionally, we asked students to share tips on how they take care of their own mental health. Here are some responses from your fellow classmates:

Matthew Luu (2T0):
"For my own mental health, I ensure I have enough time to myself. Whether it be hours or even a day."

Michelle Hartin (2T0):
"For my mental health, I focus on spending time with people that make me happy and snuggling my cat."

Catherine Zhu (2T1):
"To take care of my mental health, I like to do the 'Five Minute Journal' which helps me practice gratitude and remind me of what's important to me!"

Aaron Tran (2T2):
"To take care of my mental health, I go to Rebel and rave my heart and mind out. It's a fantastic stress reliever."

We congratulate all our prize winners and hope that CAPSI's Social Media Challenge has gotten you excited for Pharmacist Awareness Month (PAM)! More prizes and opportunities to get involved with CAPSI are headed your way – stay tuned!

- Rachel (2T0) and Elaine (2T1), your CAPSI Team

INTERVIEW • Faculty Spotlight

CSHP SPOTLIGHT: PROFESSOR MARISA BATTISTELLA

Peter Zhang, 2T1

Marisa is a Clinician Scientist and a Clinical Pharmacist in the Nephrology Department at the University Health Network, and an Associate Professor at the Leslie Dan Faculty of Pharmacy.

Peter Zhang: Hi Marisa, thank you for your time today, just to get us started, can you tell us about yourself and some of the reasons why you decided to pursue hospital pharmacy?

Marisa Battistella: The best way to answer this question is to share with you my experience before even getting into pharmacy. Before getting into pharmacy, I had volunteered in both community as well as in hospital. In my 3rd year of undergrad I took pharmacology, and I really liked it. That's when I started volunteering and I'm glad I volunteered because I really got a feel for what I liked. Really, I liked nephrology before I even started practicing in the area, and I don't know if it's because I enjoyed learning the physiology of renal disease, and when it came to pharmacology, you really needed to understand physiology to understand how the medications worked.

Furthermore, after my 3rd year of pharmacy we had industry summer jobs where pharmaceutical companies hired pharmacy students for the summer. That was a good experience for me as well. So, going to back to your question, I think it's because I was exposed to different job opportunities early on. Each of them had their challenges, community has their challenges because you may not be able to delve into the details of a patient and disease because you might not have time or enough information, hopefully that will change one day. But I liked delving into the details, not just the pharmacology but also the disease. That's one part I really enjoyed. Most of my summers, I was able to work in hospital pharmacy. After graduating from pharmacy I did a residency. It's now a lot harder to get summer jobs in hospital pharmacy but it doesn't hurt to volunteer. And if you're not able to volunteer full time, you can still volunteer part-time and it gives you a chance to see what you like. That's really how I got into it, a lot of exposure.

PZ: How did you get into the role of a clinician scientist or principal investigator?

MB: Now days, I would recommend you do a Master's Degree or a PhD. But back then it was a bit different and you would do your postgraduate PharmD. I did some research in my undergraduate degree but I wanted to deal with patients so I went into pharmacy. When I did my residency, I did a research project and I found that I really liked this aspect of pharmacy. That would have probably been the time for me to go back to do my graduate degree, but in those days, no one did that and there was no one to mentor us. So, I did my PharmD and I did a few research rotations then. It was a lot of work after, but you learn by doing and that's how I learned. My official title is Clinician Scientist. There's 6 of us in the city. We basically have the same role, it's 50% research and 50% clinical. *(Continued on next page...)*

INTERVIEW · Marisa Battistella (2 of 3)

That started with Dean Henry Mann who set up these roles with the hospital administrators and it follows what medicine does and lucky for me the timing was right on. When this position came up, I was ready, I felt like I did a lot of clinical work and established myself clinically so it was good timing. I have been in this position for 7 years now!

PZ: As a principal investigator, what kind of projects are you working on now?

MB: It started off as baby steps. I learned by doing and meeting people and talking to people. We started off with quality improvement projects – for instance evaluating the use of medications in different populations, so that was nephrology for me. New drugs would come out and we would look at who uses it, how do we use it and we would roll out protocols to see if we could do better if we had certain protocols. That's how we started. Then I had more ideas for research. I have now received funding for kinetic studies which are harder to do because it's hard to find patients. Most of my grants are for optimization of medications in Chronic Kidney Disease patients and deprescribing in this population.

PZ: There's quite a few people with Master's Degrees and PhDs, how would that come into play for pharmacy?

MB: It will be interesting. They have a lot of good training, but like anything there is a learning curve. But I think it'll be easier once they get into a role - then they can apply for different types of funding for different types of studies or projects. Again, there's still networking and working hard towards it. Just because you have the letters it doesn't mean it's going to happen. I don't have those letters, but I worked hard, met people, and asked questions. It's not been an easy road, applying for grants and not getting funding, but that's just part of the process. I sure have learned a lot along the way.

PZ: What do you think are your next steps?

MB: You know, I can see myself doing this for the next 5 to 10 years and then after maybe I would want to move more into an education or administrative role. I really love teaching but it's hard to let go of the clinical work, I still like seeing patients. I'm thinking of moving away from the role of a course coordinator and more towards coming in to do just the teaching aspect. But afterwards, I think maybe I might be more involved with teaching or administration.

PZ: Moving away a bit from research, what are some of your roles clinically at Toronto General Hospital?

MB: I'm lucky to work in Nephrology, which is very team-oriented; patients are on average 15 medications a day. There is a lot of optimization that has to occur, education, and a focus on adherence since they are on so many medications as well as de-prescribing some of them as appropriate. In many ways I feel like a consultant with medications. Patients often have questions, nurses, and others too. I often work very closely with dieticians when it comes to fine-tuning medications and their diet. And working with physicians of course because they are complicated patients. I think the best way to describe this is that we are one consultant on that team to best optimize their care and their medications.

PZ: Have you ever been involved with CSHP? Did you feel like it helped contribute to your success?

MB: Tons! I've been a member since I was a student, that would have been 1994, 25 years, that was my first year of pharmacy. I had also been the President on the Residency Council, sat on the CSHP National Education Committee, and the Vice-Chair of the CSHP Grants Committee.

(Continued on next page...)

INTERVIEW · Marisa Battistella (3 of 3)

On the Grants Committee, we approve grants for different research projects, typically for hospital pharmacists. I also sit on the Kidney Foundation of Canada's Allied Health Scientific Committee approving grants for research. I was always involved, I had also been the President of UPS. I used to run track in Varsity when I was a student at Western and so when I went to pharmacy school I played in many intermural sports (I had used up my CIS eligibility). I was just happy to be involved, the people you meet of course, and I was really passionate about pharmacy right when I got in and I was really excited to practice. Still am of course.

PZ: That's really impressive, are you still currently involved with athletics?

MB: Actually recently I did my first half-ironman triathlon which was a 2k swim, 90 km bike, and a 21 km run! Keeping fit is important for my mental health!

PZ: Thank you Marisa, as a final word, do you have any advice you would like to give for current students who wish to follow your path?

MB: I would say work hard, volunteer, and get involved as much as you can in any aspect of pharmacy because I think you learn from anything you do in pharmacy. Even if it's outside of pharmacy, just volunteering for your community, learning how to interact, learning what happens in the real world.

THE GHANA HEALTH TEAM

Alexa Blakney, 1T9

When I reflect on my APPE rotation with the Ghana Health Team, my thoughts are overflowing with lessons learned, takeaways, and stories. I could talk about cultural sensitivity and learning to communicate through a translator, I could talk about how amazing it was to work alongside Ghanaian health care professionals (HCPs) as we served their communities, or beginning to scratch the surface of a different culture. But I wanted to talk about one of the biggest questions I had going into this rotation – how much of a difference can a two week mobile clinic make? It turns out, a fair bit.

In the two weeks we were there, hundreds of people had surgery to repair their hernias, which can become dangerous if left alone and impair people's ability to work or farm. We dispensed medications for thousands of patients with diseases like Yaws, which is SO easy to treat (it's literally a one time dose of azithromycin), but if left unchecked can lead to serious complications and disability. We diagnosed chronic conditions like diabetes and hypertension, and gave a starting supply of medication until patients could visit a clinic. For patients that were more complicated, we had room in our budget for referrals to hospitals further south, so people could receive the treatment or surgery they needed to cure their condition. In a couple short weeks, we saw the lives of patients transformed.

Yet, the effect of this clinic isn't restricted to the two weeks we are in Ghana. Working alongside Ghanaian HCPs allows time for coaching and training. One HCP shared how he was able to take back many of the techniques he had learned to the hospital where he works. The consistency of coming year after year, and the partnership born between Canadians and Ghanaians has also helped pave the way for a hospital that will soon be constructed in Carpenter.

None of this impact would be possible if it wasn't for the work of the Northern Empowerment Association (NEA) and Ghana Rural Integrated Development (GRID) do, all 52 weeks of the year. I thought this trip would test my knowledge of tropical diseases, but really it brought me back to our classes on the social determinants of health. As the director of NEA, Dr. David Mensah explained, "healthcare is only one piece of the puzzle" (and the Ghana Health Team only one piece of the healthcare puzzle!). NEA's mission statement is: "Motivated by Christ's love, our mission is to assist poor communities to meet their basic needs in a sustainable manner."

Building wells to allow access to clean water and building latrines to prevent the spread of disease has as much, if not more impact on health than healthcare does. Scholarship programs help lift adolescents out of poverty through education, and many students pursue careers in healthcare, which helps address the shortage of healthcare professionals in Northern Ghana. On a tour of the compound, we saw all of the work and training NEA does in agriculture in order to improve farming practices and ensure food security. None of this development work is possible if there is violence and instability in the region, so peace building between the tribes is a critical component of NEA's holistic approach. Healthcare, and the Ghana Health Team, truly is just one piece of a much larger puzzle.

I am so thankful to have had the opportunity to see what pharmacy looks like in a mobile clinic, but even more thankful for the people I met and the stories I heard. I hope that someday I will have the chance to go back.

I would like to thank the Enhancing the Student Experience Fund for making this global rotation possible, GRID and NEA for allowing me to join this year's Team, and my preceptor Linda Dresser for her patient and insightful guidance throughout the rotation.

INTERVIEW • Faculty Spotlight

INTERVIEW WITH NAOMI STEENHOF

Farhat Hossain, 2To

Naomi Steenhof is a pharmacist at the Comprehensive Integrated Pain Program (CIPP) at the University Health Network (UHN). After completing her BSc from the University of Waterloo (UW) and BEd from the University of Western Ontario, she pursued her BScPhm at the University of Toronto, which led her to do a residency at UHN.

After practicing in Internal Medicine at UHN, she decided to refocus on her education and became a fellow at The Wilson Centre (U of T) while completing a Masters in Health Professions Education at Maastricht University. Naomi recently started teaching at the faculty this past year. She has taught and coordinated PHM305H1- Medication Therapy Management 4. She is currently teaching PHM352H2- Pharmacotherapy in Older Adults and coordinates PHM330H1- Preparation for Advanced Pharmacy Practice Experience (APPE) with Aleksandra (Sandra) Bjelajac Mejia.

She was a judge for the CAPSI patient interviewing competition and volunteers her time as a preceptor for pharmacy students at the IMAGINE Clinic.

Farhat Hossain: *What interested you to pursue a career in pharmacy and clinical research?*

Naomi Steenhof: My journey to becoming a pharmacist took a very windy road. I knew in high school that I was really interested in chemistry, so I went to UW to study biology and chemistry. While I was at UW, I worked as a teaching assistant in a chemistry lab and also as a research assistant (RA) in a botany lab. As a RA, I realized pretty quickly that I didn't want go down the pure research route in a lab. I thought I wanted to be a teacher because I enjoyed being a TA. I went to teacher's college and found I liked teaching, but not in a high school setting. I realized that pharmacy would offer a great opportunity to combine my love of science and teaching, so I then went to pharmacy school. I started off thinking that I would mainly be teaching patients (which I do, and love) but then found that I was passionate about teaching pharmacy learners.

FH: *What stimulated your interest in going into clinical research, specifically in the area of pain?*

NS: My research in Suboxone (buprenorphine-naloxone) and pain management was very practical. I was working at CIPP when one of the physiatrists suggested exploring Suboxone as a potential treatment for chronic pain. My supervisor, Laura Murphy, was supportive and encouraged me to develop a clinic with the nurse practitioner and physiatrist. We started the program and at the same time started tracking our patient's experiences. I always knew research would be a part of my practice particularly because of my residency training. It was during my residency that I learned good research arises out of curiosity and realized that "I don't really have an answer for this question". Now the problem I have is that I have too many questions and only have so much time to direct towards that type of research.

FH: *What is your role as a pharmacist at CIPP at UHN?*

NS: I work with two physiatrists who have clinics on Monday. I set aside specific appointment times for pharmaceutical care consults with their patients.

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INTERVIEW · Naomi Steenhof (2 of 3)

I also book appointments directly with patients. Patients very rarely see me just once especially if we're trying to rationalize medications or titrate down opioids. I'm available to the team for consults throughout the day as well and am often pulled into a case and asked for a recommendation or opinion. We also do Suboxone inductions at the clinic. We usually run one or two cycles a month. On those days, I'll either be involved in an induction or in follow-up to help optimize Suboxone doses. Those are some parts of my role that happen fluidly - although every Monday looks different.

FH: *What do your appointments with patients look like?*

NS: I try to be very targeted with my appointments. By the time the patient sees me, the team has completed a full initial assessment. I may not understand all the components of that assessment, and so I work with the MD or NP to understand the plan better. Often by the time the patient is booking an appointment to see me, we are focusing on opioid tapering or rationalizing medications. A big issue that I have been seeing lately is that people may be on 7 different medications for pain and they have been on them for 10-20 years. They are having a host of side effects as they get older and my job is to try to figure out what's working and what is not. Often that involves a lot of de-prescribing. The number one tool that I have learned to use is the Brief Pain Inventory (BPI) functional score. This tells me little bit about how their pain is interfering with sleep, appetite, their relationships with other people, and with their day-to-day functioning. For people with chronic pain, I'm never going to be able to reduce their pain to zero with medications, but I'm thinking, are there ways to help their sleep get better? Is there a way to make them a better spouse or a better dad? What are their goals and how can I help make sure the medications are improving that part of their life?

FH: *Did your residency have a focus in that area*?

NS: No, not at all. Actually, when I completed my residency, I worked in the emergency department at the Toronto Western Hospital and then I moved into internal medicine. Although I now see myself as a pharmacist who practices in chronic pain, my main identity started out in internal medicine. The skills that I acquired in General Internal Medicine (GIM) allowed me to say, "you know what, I can practice in this new role". There was a lot of learning and my perception on what I knew about pain had to completely shift from when I worked in GIM where I saw a lot of acute pain or acute on chronic pain. Now I'm seeing people who have chronic pain and the treatment approach is actually quite different. I didn't understand that when I started the role. When I first started I would sit in on the assessments with the MDs and NPs, and say "can I watch you?" and that's how I learned.

FH: *In light of the opioid crisis, what role do you think pharmacists could have in opioid management?*

NS: It's a huge role. I think talking directly with patients, being honest and providing up to date information to them about the true benefits and harms of long-term opioid use are particularly helpful. I find that many patients are frustrated with the side effects of long-term opioid use, but are afraid to decrease or stop them on their own. The role I have seen myself grow into and what I would suggest for pharmacy students, is to be supportive, non-judgmental and work closely alongside with patients if plans are to de-prescribe or lower the dose.

FH: *What are three things on your bucket list?*

NS: I love being outdoors and I absolutely love hiking.

There is a hiking route in Switzerland, Chamonix to Zermatt, that takes about two weeks to complete. I have already hiked a fair amount in Switzerland, but this route has mountain huts along the way so its something people can do fairly easily when they are in their 50s and 60s. Most of the hiking I do now, I carry my tent on my back (it's cheaper!) but I can't imagine wanting to do as much as I get older. I also want to do some hiking in Nepal in the next few years. The third item on this bucket list is to go to Vietnam. I would love to find a remote island with a small hut on it and just be there for a couple of weeks with no internet. *(Continued...)*

INTERVIEW · Naomi Steenhof (3 of 3)

FH: *What kind of places did you travel to?*

NS: A year and a half ago, my husband and I travelled to Chile for a few weeks, all the way to the southern part near Punta Arenas. We hiked the Torres del Paine "O" circuit – 110 km in 6 days. We packed all of our gear and food for the whole loop because most of the refugios (mountain camp) were shutting down for the season – we saw very few people! This summer I also hiked in Switzerland up to the Schilthorn summit right before MTM4 started. The timing worked out well because I was presenting at a medical education conference in Basel earlier in the month.

FH: *What student extracurricular activities are you involved with?*

NS: I volunteer with the IMAGINE Clinic. I actually was a student when IMAGINE was started at U of T and I was a student volunteer for the first two years when the clinic opened. I was really proud of that and when I graduated and had my license, I started being a preceptor. I used to volunteer 2-3 times a year but now that I am busier, I volunteer one Saturday a year. I have been a faculty advisor for a UPS meeting and have judged the CAPSI patient interviewing competition.

FH: *My final question is what are some tips you can provide to students who would like to practice pharmacy in a hospital setting and who would like to go on and conduct clinical research?*

NS: For students who want to be hospital pharmacists, APPE experiences may help you figure this out. I found that my experiential rotations and summer jobs helped me to make connections and gather experiences that assisted me in deciding where I wanted to practice. I wish someone has told me that I shouldn't be too rigid about what I wanted my professional path to look like because it looks very different for everyone. I also wish that I would have learned the value of being myself earlier in my career. When I was in pharmacy school, I didn't have a good understanding that there were parts of my personality that would allow me to be a great pharmacist. I felt a strong pressure to conform to dominant stereotypes about pharmacists (for example, that pharmacists are linear, detail-oriented, or risk-adverse) and to suppress the parts of myself that were different or quirky.

I now know that there are many different ways to practice, and that my unique background is something that has ultimately been a strength when providing care for patients. Fighting against myself wasn't going to make me a better clinician. My third piece of advice is to find a mentor. I have been so privileged to have many great mentors throughout my life. They have provided me with advice during key decisions points throughout my career. Most importantly, they have helped me to remember what my larger goals are and helped me identify opportunities that were available to me.

AFTER SCHOOL · Residency

PHARMACY RESIDENCY 101

Narthaanan Srimurugathasan, 2To

What is a residency?

A pharmacy residency allows students to pursue further education after being licensed as a pharmacist. All accredited residencies are administered in collaboration with local universities, hospitals, health authorities, and the Canadian Society of Hospital Pharmacists (CSHP).

Individual programs are accredited by CSHP which ensures program standards, content, and rigor is consistent across the country. Upon completion of an accredited program, residents earn the title designation of ACPR (Accredited Canadian Pharmacy Resident).

What is the difference between a PGY-1 and a PGY-2?

In America, pharmacy residencies are split into two years. Postgraduate year one (PGY-1) is a generalized program exposing students to various aspects of pharmacy practice and administration over 12 months of structured rotations.

Postgraduate year two (PGY-2) focuses on a specific discipline and helps lead to specialization in that field. PGY-2 specializations include cardiology, critical care, drug information, nuclear medicine, solid organ transplant, medication-use safety, and health-system pharmacy administration.

A PGY-1 program must be completed in order to complete a PGY-2 residency. Most of the residency programs available in Canada are year one programs (PGY-1). Currently, year 2 programs (PGY-2) are pending accreditation by CSHP.

What kind of residencies are offered?

The majority of residencies offered in Canada are general, year one programs. Through these programs, students explore a variety of clinical (general medicine, critical care, pediatrics, emergency medicine, nephrology, etc.) and non-clinical (research project, leadership/administration, drug information, etc.) rotations.

Some hospitals offer specialty year one residencies (e.g. CAMH, Princess Margaret). These residencies are year one programs, and thus must meet the accreditation standards for year one programs, however, students may focus on the specialty through elective and focused rotations. Similarly, some hospitals offer residencies focused in ambulatory care (e.g. Sunnybrook, UHN).

Year two residency programs are currently scarce in Canada. There are programs on Infectious Diseases and Cardiology at the Alberta Health Services and on Critical Care, Internal Medicine, and Pediatrics at the Lower Mainland Pharmacy Services, British Columbia. These programs are pending accreditation by CSHP. There is no information regarding the accreditation status of year two programs in Ontario (HIV at UHN, Critical Care/Cardiology at St. Michael's Hospital, etc.).

(Continued on next page...)

AFTER SCHOOL · Residency (continued...)

What is an industrial residency?

The industrial pharmacy residency program at the University of Toronto is a unique, one-year program in collaboration with pharmaceutical companies. This program enables students to learn in depth about one or two areas within Industrial Pharmacy, such as Medical Affairs, Regulatory Affairs, Marketing, and Market Access.

The program is neither accredited nor provides students with a specialized designation upon completion. However, it allows students to learn about various roles within pharmaceutical industry and complete a project.

What residencies are available in America?

In addition to the hospital, ambulatory, and industrial residencies that have already been established in Canada, there are many other residencies offered in America. Examples of specialized hospital residencies include health system pharmacy administration, medication safety, pharmacotherapy, pharmacy outcomes and analytics, and informatics.

They also offer community-based pharmacy residencies (separate from ambulatory residencies). Students can pursue postgraduate fellowships in pharmacogenomics, pharmacokinetics, and pharmacodynamics which are administered in collaboration between universities and hospitals. Industry-focused fellowships are also available (e.g. drug development). There are pharmacy residencies in managed care (e.g. through insurance companies) as well. These residencies typically focus on pharmacoeconomics, formulary management, and drug use evaluation.

What other postgraduate education opportunities are available?

There are a number of postgraduate education opportunities in addition to residencies. Pharmacists can maintain their competency and engage in professional development through continuing education resources. These are available through workshops, webinars, and conference talks.

Pharmacists can choose to complete additional certifications to specialize in an area of interest. These certifications may lead to designations such as a certified diabetes educator (CDE), certified geriatrics pharmacist (CGP), and certified respiratory educator (CRE). Although the number of certifications available in Canada is limited, there are many more in America (e.g. certified pain educator, asthma certification, anticoagulation specialist).

Additional certifications are available through the Board of Pharmacy Specialities (BPS), a division of the American Pharmacists Association (APhA).

These certifications provide pharmacists with specialized training, knowledge, and skills to foster advanced practice in pharmacy. BPS certifications are available in ambulatory care, cardiology, compounded sterile preparations, critical care, geriatrics, infectious diseases, nuclear pharmacy, nutrition support, oncology, pediatrics, pharmacotherapy, and psychiatry. This offers students to gain competency in an area of interest without committing to a specialized residency.

FEATURE· Counselling in Your Language

Pharmacists speak your language! Here are some common pharmacy phrases in the Top 10 languages spoken in Toronto! - The Editors

English	Take with food / Take with plenty of water.	Take until finished / Take every ___ hours.	Use only if you need it.	Avoid grapefruit and grapefruit juice.
Français French	Prenez avec de la nourriture / Prenez avec de l'eau.	Prenez jusqu'à la fin/ Prenez chaque _____ heures.	Utilisez seulement si requis.	Évitez de consommer le pamplemousse et le jus de pamplemousse.
中文 Chinese	和食物同服 / 服药时喝大量水	吃完药 / 每 ___ 小时服用一次	只在需要的 时候服用	此药物不宜和西柚 以及西柚汁 同时食用
Español Spanish	Tomar con comida/ Tomar con bastante agua.	Tomar hasta acabar la receta / Tomar cada _____ horas.	Usar solamente si es necesario.	Evitar pomelo o jugo de pomelo.
ਪੰਜਾਬੀ Punjabi	**ਦਵਾਈ ਭੋਜਨ ਦੇ ਨਾਲ ਲਓ / ਦਵਾਈ ਦੇ ਨਾਲ ਕਾਫੀ ਪਾਣੀ ਪੀਓ**	**ਪੂਰੀ ਹੋਣ ਤੱਕ ਦਵਾਈ ਲੈਦੇ ਰਹੋ / ਹਰ _____ ਘੰਟੇ ਲਓ**	**ਦਵਾਈ ਸਰਿਫ ਤਾਂ ਹੀ ਵਰਤੋ ਜੇ ਤੁਹਾਨੂੰ ਜ਼ਰੂਰਤ ਹੈ**	**ਚਕੋਤਰਾ ਅਤੇ ਚਕੋਤਰਾ ਦੇ ਜੂਸ ਤੋ ਬਚੋ**
Tagalog	Inumin ng may laman ang tiyan / Inumin ng may kasamang maraming tubig.	Inumin hanggang maubos / Inumin kada __ na oras.	Gamitin kapag kailangan lang.	Iwasan ang grapefruit at grapefruit juice.
اردو Urdu	اس دوا کو کھا نے کے ساتھ لیں/ اس دوا کو خوب سارے پانی کے ساتھ لیں	اس دوا کو مقمّل طور پر ختم کریں/ اس دوا کو ہر ____ گھنٹے بعد لیں	حسب ضرورت استعمال کریں	گریپ فروٹ یا گریپ فروٹ جوس اس دوا کے ساتھ نہ پیئں
தமிழ் Tamil	உணவுடன் எடுத்துக் கொள்ளுங்கள் /தண்ணீருடன் எடுத்துக் கொள்ளுங்கள்	முடிக்கப்படும் வரை எடுத்துக் கொள்ளுங்கள் / ஒவ்வொரு __ மணிநேரத்துக்கு எடுத்துக்க கொள்ளுங்கள்	உங்களுக்கு தேவைப்பட்டால் மட்டுமே பயன்படுத்தவும்	திராட்சைப்பழம் மற்றும் திராட்சைப்பழம் சாற்றை தவிர்க்கவும்
Português Portugese	Tomar come comida/ Tomar e beba com basante água.	Tomar até acabar, Tomar em ___ horas	Usar so quando precisar.	Evitar pomelo e sumo de pomelo.
Italiano Italian	Prenda questa medicina con il cibo / con l'aqua.	Prenda questa medicina fino a quando è finito.	Utilizzare questa medicina solo quande è necessario.	Non prendere questa medicina con pompelmo.

MONOGRAPH

Thanks to Cédric Richard, Christy Mak, Angela Mei, Matias De Dovitiis, Sahib Karir, Ira Garcia, Hiba Siddiqui, Tharshan Raja, Sarah Bento De Sousa, and Ersilia D'Andrea for their contributions. This Feature is a collaboration between Phrancophones of Pharmacy (POP), the Pharmacy Muslim Students Association (PHAMSA), and The Monograph.

Shake well.	This medication may cause drowinsess or dizziness.	Do you have insurance?	You have no more refills.	You need to go to the hospital/doctor.
Agitez bien.	Ce médicament peut causer la somnolence ou de l'étourdissement	Avez-vous de l'assurance?	Vous ne pouvez plus renouveller ce médicament.	Vous avez besoin d'aller à l'hôpital / au docteur.
请摇匀	此药物可能会引起头晕	请问有没有药物保险?	你需要得到一个新的处方	您需要去看医生
Agitar bien.	Esta medicación puede causar sueño o mareo.	¿Tienes seguro de salud?	Su receta esta vencida.	Necesita ver un doctor o ir a un hospital.
ਲੈਣ ਤੋਂ ਪਹਲਿਾਂ ਦਵਾਈ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਹਲਿਾਓ	**ਇਸ ਦਵਾਈ ਕਰਕੇ ਸੁਸਤੀ ਜਾਂ ਚੱਕਰ ਆ ਸਕਦੇ ਹੈ**	**ਤੁਹਾਡੇ ਕੋਲ ਇੰਸੂਰਾਂਸ ਹੈ?**	**ਤੁਹਾਡੇ ਕੋਲ ਦਵਾਈ ਦੇ ਹੋਰ ਰੀਫਲਿ ਨਹੀ ਹੈ**	**ਤੁਹਾਨੂੰ ਹੈਸਪੀਟਲ / ਡਾਕਟਰ ਕੋਲ ਜਾਣ ਦੀ ਲੋੜ ਹੈ**
Kalugin ng mabuti.	Ang gamot na ito ay maaring magdulot ng pagka-antok o pagka-hilo	Meron ba kayong insurance?	Ubos na ang inyong reseta.	Kailangan ninyong pumunta sa ospital / doktor
بوتل کو اچھی طرح ہلا لیں	اس دوا سے غنودگی کا احساس یا چکر آسکتے ہیں	آپ کے پاس انشورنس ہے؟	اس نسخے پر آپ کو مزید دوا نہیں مل سکتی	آپ کو ڈاکٹر کے پاس / ہسپتال جانے کی ضرورت ہے
நன்றாகக் கலக்கவும்	இந்த மருந்துக்கு தூக்கம் ஏற்படலாம்	உங்களுக்கு காப்பீடு இருக்கிறதா?	உங்களுக்கு மறு நிரப்பல் இல்லை	நீங்கள் மருத்துவமனைக்கு அல்லது மருத்துவரிடம் செல்ல வேண்டும்
Agitar bem.	Este medicamento causa adormecer.	Tem segurança médica?	Não tem mais recargas.	Você precisa ir ao médico / hospital.
Agitare bene.	Questa medicina puo farti sentire stanco.	Hai la assicurazione?	Non si puo riempe piu.	Hai bisogno di andare in ospedale / devi andare a vedere il Dottore /la Dottoressa

HEADLINES IN HEALTHCARE

A NEW GENETICS-FREE METHOD FOR DRUG DISCOVERY

Ersilia D'Andrea, 2To

A large number of medications in use today are derived from natural sources such as plants and bacteria. We can thank nature for over 70% of antibiotics, and over 50% of anticancer agents and other approved drugs (these percentages refer to FDA-approved drugs, but surely reflect drugs on the Canadian market as well). These compounds are called secondary metabolites, because they typically form as a result of some cellular process within plant or bacterial cells and there are more examples than the aspirin, morphine, and penicillin that probably comes to mind at first. Recently, scientists at Princeton University developed a novel method of finding more new secondary metabolites which can serve as potential drug candidates for various diseases.

Bacteria are a rich source of secondary metabolites, but they are not always expressed by microorganisms all the time. In fact, genes involved in the biosynthesis of secondary metabolites are more often turned "off" than "on". These genes, referred to as biosynthetic gene clusters (BCGs), that encode the metabolites are only turned on in situations when bacteria are in danger or competing with other bacteria. Until now, scientists have only been able to study secondary metabolites through complex and tedious techniques including sequencing entire plant or bacterial genomes, identifying genes with unknown functions, then transferring those genes individually into different bacteria in an attempt to activate their expression and uncover their function. The new, faster process of identifying secondary metabolite genes is called "elicitor screening", because it elicits a biosynthetic response from a single bacterial culture that different compounds are transferred into, without doing the genetics work. Elicitor screening has been around since 2014 from a different research group but has been refined and modified for the purpose of drug discovery.

A challenge in the past was that although targeted gene pathways can be activated by "elicitors", it is difficult to identify their final product compounds. With the new-and-improved elicitor screening method, end-product compounds are easier to identify after gene pathways are turned "on" after simply being exposed to a certain trigger. The Princeton team was able to expose various gram-negative and gram-positive bacterial strains to over 500 different conditions comprising separate triggers to elicit activation of certain BCGs. Next, the secondary metabolites produced in response to these triggers were screened for and measured using mass spectrometry rather than genetic reporter assays.

The results of this study were very productive and showed that elicitor screening is worthwhile- it's capable of revealing compounds that known bacterial species have been making already. So far, 9 new compounds have already been discovered thanks to this new technique, including one with antiviral properties against the common and troublesome RSV (respiratory syncytial virus). Next steps for this project include activating gene pathways in additional bacterial species and exploring which compounds that are identified can have therapeutic applications for human disease and end up behind pharmacy counters at some point in the future.

References:
1. Xu, F., Wu, Y., Zhang, C., Davis, K. M., Moon, K., Leah, B. B., & Seyedsayamdost, M. R. (2019, February). A genetics-free method for high-throughput discovery of cryptic microbial metabolites. Nature Chemical Biology, 15, 161-168.
2. Groves, A. (2019, January 14). Hijacked Bacteria Reveal New Compounds, New Drug Candidates. Discover. Retrieved from http://blogs.discovermagazine.com/d-brief/2019/01/14/trove-of-drug-ingredients-secondary-metabolites/#.XFhyJFxKg2w

ATHLETICS · Intramurals

ONE, TWO, THREE, DRUGS! - PHARM DODGEBALL

Andrew Tu, 2T2

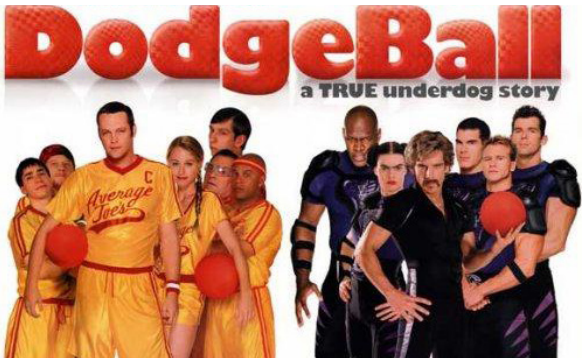
"If you can dodge a wrench, you can dodge a ball."

"If you can dodge traffic, you can dodge a ball."

When I started pharmacy school in September, I was overwhelmed by the number of clubs I saw during phrosh. I remember coming across the athletics table and being asked if I wanted to do intramurals. Having never excelled at sports, I didn't sign up for any intramurals thinking that I wouldn't be able to play ball with the athletes in our program. Then at the start of this semester, I saw a post on Facebook about dodgeball and remembered playing the game back in elementary school. I thought this was a game that I could play and decided to sign up. The rules of dodgeball are simple: if a person gets hit with a ball, they're out; if a person's thrown ball gets caught, they're out; if the ball hits the wall or floor before it hits a person or if they deflect it with another ball, they're safe. The team that eliminates all members of the other side or who has more players remaining when time is up wins the game.

I soon realized that pharmacy students are not only team players in academics and practice, but in sports as well. The pharmacy dodgeball team has worked hard and well together each game and has managed to keep a winning streak before playoffs. All the dodgeball games so far with the pharmacy team have been a ton of fun. At the start of February, there was a glow in the dark dodgeball tournament where our own 2T2 athletic rep Jonathan Ko organized a pharmacy team to compete in. Together the team of 2T2s worked hard and had fun playing dodgeball in the dark and managed to make it to the quarterfinals in the playoffs.

After playing dodgeball this semester, I'm excited for the annual pharmacy dodgeball tournament and I'm hoping to get more involved with intramurals in the future. If you're ever considering intramurals like I was, dodgeball is a friendly sport to join and it's not hard to learn. So, come on out to the next dodgeball game, get ready to have fun, do a "drugs on three", and "remember the 5 D's of dodgeball: Dodge, Duck, Dip, Dive, and Dodge."



CLUBS CORNER · EVOLVE

AIMOVIG, A NEW MIGRAINE DRUG

Pauline Tram, 2T0

One of the most common, underdiagnosed disorders is migraines.[1] Many people suffer from it each day.[1] Migraines can disrupt an individual's daily function.[1] The two most common types of migraines are migraines with aura and without aura.[1] Some patients take analgesics, like acetaminophen, so frequently that it can lead to medication overuse headache.[1] (Frequently in this case is defined as 10 or more calendar days a month.[1]) Fortunately, there are other classes of drugs that can be used to treat headaches such as triptans.[1] However, based on anecdotal experience, some patients may not find it effective or end up using it very frequently. Patients begin to seek out other options like monoamine oxidase inhibitors (MAOIs).[1] However, MAOIs have side effects associated with them.[1]

Fortunately, this past August Health Canada approved a new class of drugs, calcitonin gene-related peptide (CGRP) receptor blockers.[2] This new monoclonal antibody is created by Novartis, and patients in the US have been using it.[3] It is believed that when CGRP, a protein present in the brain is released, it leads to inflammation of the meninges (the structure that covers the brain).[3] Thus, by blocking the CGRP receptor, it can help prevent a migraine from occurring as inflammation is decreased.[3] Aimovig (erenumab) is a self-administered monthly injection.[3] Since this past December, Aimovig is now available in Canada.[4] There have been clinical trials and cost effectiveness studies done to demonstrate its' affordability and efficacy.

One of the clinical trials found that 70mg or 140mg of erenumab instead of placebo significantly decreased the occurrence of migraines and use of acute migraine-specific medication over 6 months.[5] The study randomized 955 patients into 3 different groups.[5] Erenumab had similar adverse effects to placebos such as nasopharyngitis.[5] More studies need to be done to determine long term side effects of erenumab.[5] Another trial called the ARISE (phase 3 study), published in SAGE journals, randomized 577 patients to using placebo or 70mg of erenumab to treat headaches.[6] Overall, it also demonstrated that 70mg of erenumab used monthly significantly decreases the frequency of migraines and use of acute specific medication use.[6] In the cost-effective analysis, it is found that erenumab may be cost effective for patients who have chronic migraine but it may not be worth it for acute migraines, however productivity costs need to be looked at.[7] Erenumab costs $6900 each year.[7] With this new biologic launched in Canada, one shall see how popular the drug will be.

References:
1. Worthington, I. (2018). Headache - CTMA chapter.
2. Novartis. (2018). AimovigTM (erenumab), a novel treatment developed specifically for migraine prevention receives Health Canada approval. Retrieved from: https://www.novartis.ca/en/news/media-releases/aimovigtm-erenumab-novel-treatment-developed-specifically-migraine-prevention
3. Novartis and Amgen. (2018). About Aimovig. Retrieved from Aimovig: https://www.aimovig.com/about/
4. Novartis Pharmaceuticals Canada Inc. (2018). Novartis' CGRP inhibitor Aimovig® (erenumab) now available in Canada for the prevention of migraine. Retrieved from: https://www.newswire.ca/news-releases/novartis-cgrp-inhibitor-aimovig-erenumab-now-available-in-canada-for-the-prevention-of-migraine-i-701769572.
5. Goadsby et al. (2017). A Controlled Trial of Erenumab for Episodic Migraine . New England Journal of Medicine. DOI:10.1056/NEJMoa1705848
6. Dodick, D. W., Ashina, M., Brandes, J. L., Kudrow, D., Lanteri-Minet, M., Osipova, V., Lenz, R. A. (2018). ARISE: A Phase 3 randomized trial of erenumab for episodic migraine. Cephalalgia, 38(6), 1026–1037. https://doi.org/10.1177/0333102418759786
7. Sussman, M., Benner, J., Neumann, P., & Menzin, J. (2018). Cost-effectiveness analysis of erenumab for the preventive treatment of episodic and chronic migraine: Results from the US societal and payer perspectives. Cephalalgia, 38(10), 1644-1657. doi:10.1177/0333102418796842

CLUBS CORNER · Entrepreneurshop and PAG

PHARMACEUTICAL INDUSTRY & ENTREPRENEURSHIP

Tom Bogdanowicz, 2T1

This club publicizes and promotes entrepreneurship within healthcare by introducing new topics related to the pharmaceutical industry that are not typically explored by the PharmD program. We offer workshops and networking events that encourage students to develop their interests & refine their skills to better prepare for non-traditional careers in pharmacy.

Panels focus on the exposition of important ideas & tasks required to launch start-up companies, while workshops are designed to develop critical skills compulsory to entrepreneurship & careers in the pharmaceutical industry. Entrepreneurs from various healthcare fields expose students to novel and prosperous ideas that are pivotal for the success of healthcare companies.

We aim to inspire entrepreneurship and motivate students to foster new ideas that benefit healthcare. Our club also shines light on new technologies that are instrumental to the development of the pharmaceutical business & successful entrepreneurship. Our events combine topics in business, pharmaceutical industry, and non-direct patient care to provide a unique insight into non-traditional pharmacy careers.

3 ISSUES IN THE ELDERLY: WHAT PHARMACISTS CAN DO ABOUT THEM

Daniel Thanapal, 2T0 (on behalf of Pharmacy Awareness of Geriatrics)

Pharmacists are seen as experts in medication therapy management. However, there are ways in which pharmacists can provide further support that seems to go underutilized.

The following are 3 issues in the elderly in which pharmacists can play a key role:

1. Physical Injury

Seniors are susceptible to physical injuries due to decreasing bone density and muscle weakness. A fall can cause fractures, traumatic brain injury and/or death. Falls carry fatal complications, yet it can be easily prevented.

Pharmacists can educate patients on taking safe measures to prevent falls and provide simple exercise regimens to build the patient's physical strength.

2. Malnutrition

Malnutrition in the elderly can be caused by factors such as dementia, depression and limited income. With a lack of adequate nutrition and weakened immune system, seniors are more prone to exacerbation of current conditions or new diseases. As front-line care providers, pharmacists can assess seniors on a regular basis to determine their nutritional status and provide solutions.

3. Mental Health

According to WHO, approximately 15% of adults over the age of 60 have a mental health disorder. However, even with a large prevalence, mental disorders are still underdiagnosed leading to more seniors with a poorer quality of life. As easily accessible healthcare providers, pharmacists can provide mental health-related community resources and act as a liaison between the healthcare system and the patient.

UNTIL THE LAST BREATH: A DESIGNTO EXHIBIT

Ann Chang, 2T2

From 2010 to 2026, the annual number of Canadian deaths will increase by 40%. Each death has the potential to affect up to 5 people, which means that 2 million Canadians will be affected by death in the next decade. The rationale behind this exhibit was to start the conversation and thinking about what is truly important at one's end of life.

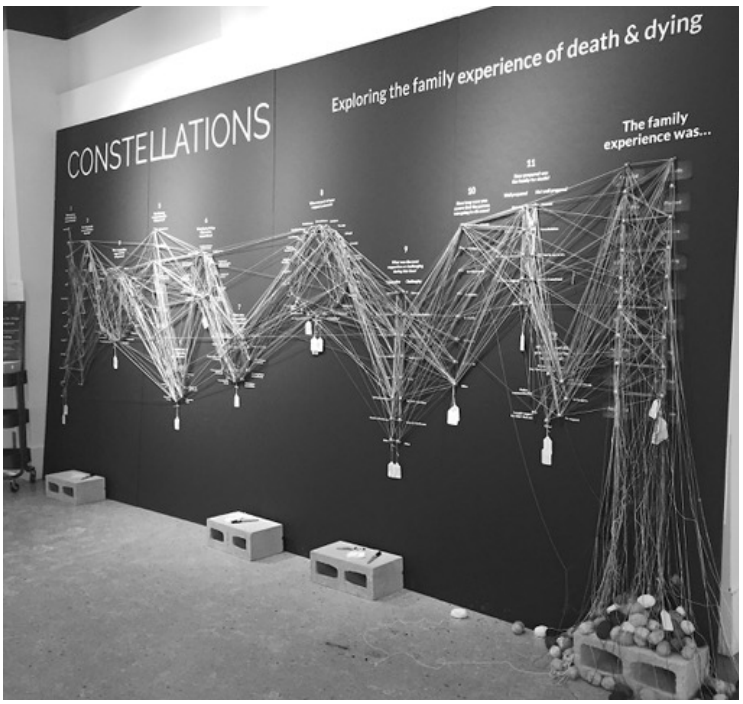
A notable exhibit from the collection is the Timeline exhibit by Lois Schklar consisting of multiple walls of small objects/trinkets tied to zigzagging strings. It portrayed the passage of time and aspects of her life as an artist in a minimalistic but beautiful way. It made me think about looking back on my life so far to collect all my accomplishments and experiences.

Another interesting exhibit by Katrina Pruss titled Hospital/Home: Soundscapes of the Death Experience consisted of a hospital setting and home furnishings on opposing sides of the room, and recordings from these settings for visitors to listen to. Interestingly, her exhibit cited studies that indicate hearing as the last sense lost during the dying process. This exhibit gave insight into what a dying patient's environment could look like and made me wonder about my preferences if I were in the patient's shoes.

A participatory exhibit called Constellations by Karen Oikonen and Kate Hale Wilkes approached the subject of death by asking participants about their end of life experiences and interactions with the healthcare system. By winding a coloured string from question to question, you were able to anonymously share your story. Many people have experienced a loved one or family member dying, but there was no common story; everyone experiences death differently.

Personally, I have never experienced being at someone's bedside as they are actively dying, but I've learned that death can be an intensely spiritual process for some and that there is a wide spectrum of reactions on both sides. The healthcare system has the potential to make a big impact to those affected by death but must be prepared to take care of both the mental and physical side of coping with death or risk suffering of caregivers. At the end of life, what would be most important to you and where would you be most comfortable? From this, what would you expect of the healthcare providers you come into contact with?

ENTERTAINMENT · Arts



More information about the exhibition.

THE MONOGRAPH WRITING CONTEST IS ON!

For Pharmacy Awareness Month, the Monograph will be holding a themed writing contest about the **pharmacist's impact on the healthcare system.**

You may choose to write about expanded scope services, or health care initiatives led by pharmacists such as clinic days for managing chronic health issues. Selected articles will be featured in the last issue of the monograph, and you will have a chance to win 1 of 4 Cineplex movie tickets!

Each submission must be a minimum of 400 words.
Deadline to submit is Friday March 8th.

ENTERTAINMENT· TV

YOUNG HEROES AND THE ETERNAL QUEST FOR JUSTICE

Kyle Yuen, 2T1

For those who grew up watching Batman the Animated Series, Justice League, Teen Titans etc, superhero cartoons have been a staple for childhood memories. As a big herohead myself, I can certainly talk a while about the influence of Bruce Timm's animation. With the advent of live-action TV and movies taking precedence over animation (Avengers, Aquaman, Daredevil), animation just isn't as appealing to the general public as live-action.

The two recent releases Titans and Young Justice: Outsiders give us a nice dichotomy of live-action TV and nostalgic TV animation. These in tandem show another side to the genre: young heroes trying to figure themselves out. It presents an interesting niche away from the heroes who've already figured a lot of their stuff out about themselves (Batman, Superman, Spiderman, etc.). Titans, rightfully mocked at its trailer's release for it's overly dramatized and edgy tone, defied expectations and ended up being a decent show. It goes into some heavy social issues and isn't afraid to shy away from controversial topics, and how these things affect the people behind the mask rather than the hero. It's a dark take that definitely isn't for everyone, especially if you were used to the happy, wacky Teen Titans cartoon.

For me personally, I really enjoyed the way that the show takes a more grounded approach to the characters and focuses on the aspect that the Titans are broken in their own ways, finding solace in each other for being fellow outsiders. That is an eternally compelling concept and I believe that with the modernization of the story, it makes for a resonating show. On the other hand, Young Justice recently received an outpour of support due to its writing, animation and plot, having released its third and latest season in January. This show is one of my favourites and I had watched it when I was in my first year of undergrad. The plot is very intricate and the characters well written, and the show takes great care to maintain a sense of internal consistency.

The show is about the sidekicks being utilized by the original superheroes for covert operations and espionage instead of fighting planet-ending threats. It is intriguing to watch how the sidekicks use their powers and skills creatively to help each other out of trouble. As a spiritual successor to the Teen Titans cartoon, it adds a dynamic element to the foundation that the cartoon had. With the release of season 3, entitled Outsiders, the show returns to brass tacks and shows the sidekick team tackling real life issues with a superhero flair (human trafficking and child abduction). The new season has gone into some dark and mature territory and does not look like it will stop.

I welcome this mature take on the genre, as these shows are a breath of fresh air. If you've got a hero hankering and are kind of bored with the relatively similar stuff Marvel puts out, give these two shows a try.

ENTERTAINMENT · Movies

A SWIMMINGLY GOOD TIME THAT MAY RISE ABOVE YOUR EXPECTATIONS!

Joe Correia, 2T0

Has the DC Cinematic Universe (DCEU) made another atrocity? Is a reboot the only option to save what is left of this franchise? The answers to these questions depended on director James Wan's ability to invigorate this franchise with a new burst of life and energy to re-establish the fan base that has largely abandoned the DCEU. Along with this challenge, Aquaman was also bound to be compared with the Marvel Cinematic Universe (MCU) after the release of one of their most successful movies, Infinity War, and the crowd pleasing Ant-Man and the Wasp that had been released earlier in the year. Needless to say the pressures and challenges that this talented director faced when he decided to take on this film were almost insurmountable. Was he able to succeed in this endeavor? In my opinion, the answer is a resounding yes!

Despite reviews for this movie being mostly mixed to slightly negative, I think this is not only the most underrated film of the year, but one of the best. It takes inspiration from the other saving grace of the DCEU, Wonder Women, by embracing the inherent silliness and tongue-in-cheek nature of the superhero genre. The DCEU originally tried to separate itself from the MCU by trying to continue with the same style and tone as The Dark Night trilogy, which brought us arguably the best comic-book movie ever made. While these movies had great success in using dark themes and making the world of Batman a grim and realistic place, this formula cannot be applied to every comic-book movie. When your new Batman exists in a world where a guy in green tights can talk to fish, you really have to change up your style. I'll admit some of the humor goes overboard in embracing this new light-hearted tone with including some cringe-worthy comedic choices and dialogue, however it is definitely a step in the right direction. Jason Momoa and Amber Heard do the best they can, but they aren't exactly seasoned performers and are unable to elevate the material. One of the biggest praises I have for this film was the spectacle of it all. Every scene was filled with intricate detail and beauty that made the world of Atlantis one of the most creative worlds on screen since The Lord of the Rings trilogy. The action and camera work were some of the best in the genre, which incorporated many practical effects that were well integrated into Aquaman's colourful CGI world.

For those of you that have lost faith in the DCEU, (shout-out to Tyler Gilbert), I recommend giving this one a try. I also recommend re-watching it if perhaps it didn't resonate with you on the first watch; it may have been difficult to shake off the residual disappointments of its predecessors.

The Verdict: 4.252 / 5 JOES
(1 JOE is approximately equivalent to 1 CHRIS)

ENTERTAINMENT · Video Games

KINGDOM HEARTS 3: A REVIEW

Edward Ho, 2To

After 14 years, the final conclusion to a story that once started nearly two decades ago has come to an end. Kingdom Hearts is a role playing game (RPG) that allows you to play as Sora, a teen wielding a magical key, and travel along recognizable Disney companions like Donald Duck, Goofy, Mulan, Simba and more. The objective of the game is to save various Disney Worlds from being taken over by the forces of darkness, known as the Heartless and Organization 13.

As you progress from world to world, you relive the movie magic from renowned Disney films including Beauty and the Beast, Pinocchio, Hercules, and Pirates of the Caribbean. In the final epic conclusion, players find themselves as Sora, yet again exploring the few final Disney worlds that have yet to be protected, including Frozen, Tangled, Monsters Inc, and Toy Story, fending off from the evil forces of Organization 13.

With changes in technology, CGI and coding over the years, Kingdom Hearts 3 presents with a fresh, new feel, but is still reminiscent of the past. Added into the gameplay are well-known attractions from the Disney Parks as attack moves, including Cinderella' Carousel, Big Thunder Mountain, and Buzz Lightyear Ranger Spin. Additionally, you can also expect several new summons, including Stitch, Simba and Remy from Ratatouille, all to help you in the quest to fighting off the darkness.

Without spoiling too much, as you progress through the game, the storyline will progress in a way that makes subtle links to the past few titles, produced in different stations. Old familiar faces return, and new faces make or break a scene. Personally, a favourite is that of dual combination attacks, where you get to team up with two friends to deliver the ultimate attack. Who doesn't want to scare some baddies up with a big scream?

For the overall storyline, this is a must-have for fans of this game franchise. Even if you're remotely interested, or are a fan of Disney movies, I'd highly recommend this game for you. Retailing at $80, it is one of the most highly anticipated games of 2019, and is sure to find a place in your heart, as it did with mine in 2002.
4.5/5 Stars.

ENTERTAINMENT · Lifestyle

TOP FIVE TORONTO DATES

Sarah Bento De Sousa, 2To

Valentine's day has come and gone but it doesn't mean you can't spend some quality time with your boo. Here are some of my favourite places around Toronto to go on dates!

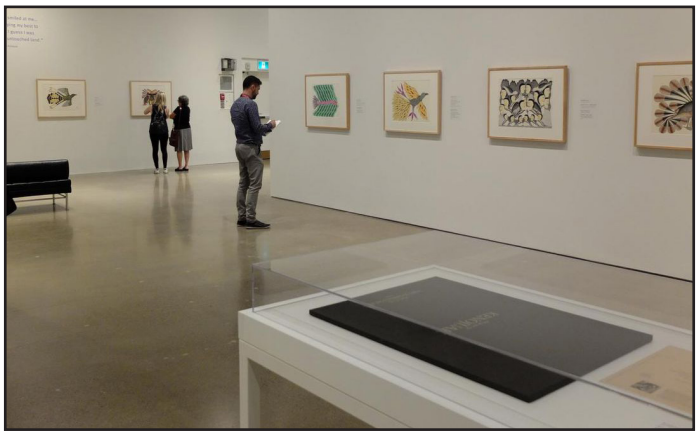
1. Stardust drive in theatre (Shannon, Ontario)
The drive-in theatre opens back up in the spring and shows start at dusk. Make sure to stop by Shoppers/ Rexall before hand and use your discount to get some snacks. And crack a window in your car, because if the movie isn't that great, you can always spend some quality time with your honey.
Price: $13 for two films and three screens to choose from!

2. Float in a sensory deprivation tank
I know this is a weird one, so hear me out. Float tanks are basically giant bath tubs filled with warm salt water, where you close your eyes and relax for an hour or so. People use them for meditation, insomnia and stress relief. Even if you're not a fan of enclosed spaces, this is a unique date experience and having someone else there can help you be less scared. There are two spas offering couples floats H2O float spa on the Danforth and Floatistics in Richmond Hill. I would highly recommend this as an intimate and relaxing experience.

3. The Rivoli (Queen West / Spadina)
The Rivoli is a vintage chic pool hall with a great selection of beer and cider. A great place for a low-key date or if you're just getting to know someone and want to show of your skills. If you want to feel out your new Tinder boo, the Rivoli is a great place to do it. If they let you win the game, it's a pretty sure sign that they are into you. The first hour of pool is free if you buy a drink, and every hour thereafter is $12. They play a great mix of oldies and goodies so you can jam out to Queen's Bohemian rhapsody between rounds.
Bonus: They also have concerts and events in the back room if you want to check out some local artists!

4. Go for a hike
If you dress warm there are tons of winter hikes you can do in the GTA. But if you want to wait until warmer months, going on a hike and packing a mini picnic is a super cute, fun and low cost way to spend the day with bae. Just be sure to pick a hike suitable to your activity levels.
Here are some of my favourites:

- Mono Cliffs Provincial Park (open year-round, snowshoeing in winter months)
- Rouge National Urban Park
- Dundas Peak/Spencer Gorge/ Webster's Falls



5. Art Gallery of Ontario (McCaul / Dundas)
The AGO is one of my favourite places to go in the winter because the architecture is so bright and welcoming even on a gloomy winter's day. The atmosphere is laid back and quiet if you go during the day, and you can spend time in the galleries without seeing a single other person. My favourite spots are the boats downstairs and climbing the spiral staircases to the modern wings upstairs. The photography galleries are almost always empty and are a great place to steal a kiss from your date. Admission is free on Wednesday nights from 6pm-9pm but you can get in for $11 any other time with your student ID.
Bonus: Provo Food bar on the corner of McCaul and Dundas serves nice tapas and drinks & brunch on weekends!

ENTERTAINMENT · Recipes

CHOCOLATE CHIP BANANA BREAD

Deevya Ramasawmy, 2To

Do you ever end up with a bunch of overripe bananas sitting on your counter at the end of the week? Well, here is a solution. This homemade banana bread recipe! This recipe is the perfect blend of sweet, moist and full of flavour. Perfect for breakfast or dessert!

Bake time: 1 hour | Prep time: 15 mins | Yield: One loaf

Ingredients needed:

- 2 large mashed overripe bananas
- 1 ½ cups of all-purpose flour
- 1 tsp of baking soda
- ¼ tsp of salt
- ½ cup of sugar
- 2 eggs, beaten
- ½ cup of melted butter
- 1 tsp of vanilla extract
- 1 cup of chocolate chips
- ½ cup of walnuts (optional)

Instructions:

1. Preheat oven to 175°C. Lightly grease a loaf pan.
2. In a large bowl, combine all dry ingredients (flour, baking soda, salt and sugar) together.
3. In a separate bowl, mix the eggs and mashed bananas until well blended. Then add the butter and vanilla extract.
4. Stir the banana mixture into the flour mixture. Add in the chocolate chips and walnuts and stir.
5. Pour batter into the greased loaf pan.
6. Bake in oven for 60 minutes or until a toothpick inserted in the centre of the cake comes out clean.
7. Let the banana bread cool down first before removing from the pan and slicing.

Enjoy Pharmacy Phamily!

Artist Spotlight

Eisha Vijay, 2T1

Yimin Liang, 2T1

Stephanie Lau, 2T2

Behind the Lens

Christine Nwosu, 2T0

Bailey Hogben, 2T0

Aleena Aslam, 2T2