

CANADIAN ASSOCIATION OF PHARMACY STUDENTS AND INTERNS LETTERS

# CAPSIL - JACEIP

LE JOURNAL DE L'ASSOCIATION CANADIENNE DES ETUDIANTS ET DES INTERNES EN PHARMACIE



## In this issue:

- Health Benefits of Yoga!
- Quebec students taking an active role in public health
- An interview with... an International Pharmacy Graduate
- Students taking part in government relations
- Perspective on the Pharmaceutical Industry

.... and much more!

**Winter / L'hiver 2012**



C A P S I • A C E I P

# CAPSIL - JACEIP

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## Editor's Message / Mots de l'éditeur

Dear CAPSI members,

Wow, can you believe that half the year has gone by and we are that much closer to becoming pharmacists?



Juanita Lui  
National CAPSIL  
Editor 2011 / 12

It was a pleasure meeting you at PDW this past January in Halifax and I hope you had a wonderful learning experience while getting to know other CAPSI members!

It never ceases to amaze me when I see that our students and CAPSI members around the country are doing incredible things from coast to coast! From philanthropy, to being engaged in government relations (pg 20), to public health policies (pg 29-30)!

Congrats again to all our competition winners from PDW (pg 31) and to our new executive council that was elected at PDW!

Good luck on the rest of your midterms, and I hope you enjoy reading this issue of the CAPSIL!

Cher membres de l'ACEIP,

Pouvez-vous croire que la moitié de l'année a passé et nous sommes beaucoup plus près de devenir pharmaciens?

C'était un plaisir de vous rencontrer à ce passé PDW Janvier à Halifax, et j'espère que vous avez eu une merveilleuse expérience d'apprentissage tout en apprenant à connaître les membres ACEIP autres!

Il ne cesse jamais de m'impressionner quand je vois nos étudiants et membres de l'ACEIP du pays font des choses incroyables, d'un océan à l'autre! De la philanthropie, à être engagés dans des relations gouvernementales, aux politiques de santé publique (pg 29-30)!

Félicitations encore à tous nos gagnants du concours de PDW (voir la page 31) et à notre nouveau conseil exécutif qui a été élu au PDW!

Bonne chance pour au reste de votre examens trimestriels, et j'espère que vous apprécierez la lecture de cette question de la JACEIP!

All published articles reflect the opinions of the authors and are not necessarily the opinions of CAPSIL, CAPSI or its sponsors.

All comments and articles are welcome at [capsil@capsi.ca](mailto:capsil@capsi.ca)

Tous les articles publiés reflètent les opinions de leurs auteurs et ne sont pas nécessairement les opinions de JACEIP, ACEIP ou de ses commanditaires.

Tout commentaire ou soumission est bienvenu à [capsil@capsi.ca](mailto:capsil@capsi.ca)

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**ALL COMMENTS AND ARTICLES ARE WELCOMED AT:**  
**capsil@capsil.ca**

Please contact your local CAPSIL rep for more information about CAPSIL and how to contribute.

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## CAPSI Club



Get excited for PDW 2013 in Montreal!

# Words from the President



Dear CAPSI Members,

It seems like with a blink of an eye, one-half of the school year has gone by. For many of you, this semester marks the last of your career as a pharmacy student. To the class of 2012, I encourage each of you to make the most of these last few months and enjoy this valuable time with your classmates and future colleagues. Time is fleeting!

In representing you, the Canadian Association of Pharmacy Students and Interns (CAPSI) has had a very busy first term delivering educational seminars, hosting competitions and working with our partners and sponsors to ensure you are able to maximize your CAPSI membership. Thank you to all of our members who participated in our first National Member Survey. The information collected will be extremely useful as we aim to re-evaluate the current activities of our Association to best meet your needs. It is now more important than ever to have a unified vision, so that together we can advocate for the future of our dynamic and every-changing profession. If you did not have the opportunity to participate in the survey and want your voice to be heard please feel free to email me at anytime ([pres@capsi.ca](mailto:pres@capsi.ca)) or speak directly to any of our local CAPSI Representatives. Please know that your voice and opinions as a student are important and we want to hear from you! After all, we are the future of our profession.

Since my last letter, the University of Dalhousie has hosted our 2012 Professional Development Week conference in Halifax, Nova Scotia and what a success it was! I would like to take this opportunity to recognize and thank the PDW 2012 Planning Committee for their outstanding performance and tireless efforts. These individuals should be commended for both their dedication and hard work, as planning one of the largest Pharmacy conferences in Canada is no small feat. I have no doubt that all who attended this year took away inspiration, knowledge and fond memories. I also hope that each student returned home with a renewed passion for pharmacy and more motivated to make positive change within our profession than ever before. One of the key messages that inspired me this year was that advocacy begins with each and every one of us, as individuals, eloquently stated by Keynote Speaker Glenn Rodrigues. Or in the words of Ghandi, we all need to “be the change we wish to see in the world.”

This year CAPSI National put forth a challenge to our members, to raise \$20,000 for breast cancer research. I now have the great honour of announcing that over 200 pharmacy students from 5 Faculties of Pharmacy came together to raise well over \$24,000, far exceeding our goal. Congratulations to all the participants at the University of Waterloo (\$6,736), the University of Alberta (\$6,239), the University of British Columbia (\$4,328), Laval Université (\$4,037) and Dalhousie University (\$3,254). Impressive totals across the board!

It has been an absolute pleasure to represent you thus far and I look forward to the rest of my term as National President.

Best of luck this term!

*Jillian Grocholsky*

National CAPSI President  
University of Waterloo Class of 2012



# Mots de la Présidente



Chères membres d'ACEIP,

Une demi-année d'école passe déjà comme un clin d'œil. Pour plusieurs d'entre vous, cette semestre marque la dernière de votre carrière comme étudiant en pharmacie. Pour la classe de 2012, je vous encourage chacun d'accomplir le plus possible durant ces derniers mois et d'avoir plaisir avec vos camarades de classe et vos collègues d'avenir. Le temps se passe!

Comme votre représentant, l'Association Canadienne des étudiantes et internes en pharmacie (ACEIP) était très occupée le premier terme en délivrant les séminaires éducatifs, en accueillant les compétitions et en travaillant avec nos partenaires et nos sponsors pour assurer que vous pouvez maximiser votre appartenance d'ACEIP. Merci à tous nos membres qui avaient participé dans notre premier Enquête de membre national. L'information collectée va être extrêmement utile puisque nous essayons à réévaluer les activités courantes de notre association pour atteindre vos besoins au meilleur. Il est maintenant plus important que jamais d'avoir une vision unifiée pour qu'on puisse ensemble préconiser pour l'avenir de notre profession dynamique et malléable. Si vous n'avez pas l'opportunité à participer dans notre enquête et vous voulez votre voix d'être étendue, s'il vous plaît envoyez-moi un courriel électronique n'importe quand ([pres@capsi.ca](mailto:pres@capsi.ca)) ou parlez directement à vos représentatives locaux d'ACEIP. Saviez que votre voix et vos opinions comme étudiant sont importantes et nous voulons entendre ce que vous aviez en tête! D'après tout, nous sommes l'avenir de notre profession.

Depuis ma dernière lettre, l'Université de Dalhousie avait hébergé notre conférence de Semaine de perfectionnement professionnel (SPP) 2012 en Halifax, Nouvelle-Écosse et c'était un grand succès! J'aimerais de prendre cette opportunité à reconnaître et remercier le Comité de planification SPP 2012 pour leur performance remarquable et leurs efforts infatigables. Ces individus devraient être félicités pour à la fois leur dédicace et travail d'effort puisque de planifier une des plus grandes conférences de pharmacie au Canada n'est pas un exploit petit.

Je n'ai aucun doute que tous qui sont présents cette année sortaient avec l'inspiration, la connaissance et de bons souvenirs. J'espère aussi que chaque étudiant retourne chez eux avec une passion renouvelée pour la pharmacie et avec plus de motivation pour faire un changement positif dans notre profession que jamais. Une des messages clés qui m'a inspirée cette année était que plaidoyer commence avec chacun d'entre nous, comme individus, éloquemment déclaré par notre conférencier d'honneur Glenn Rodrigues. Ou dans les mots de Ghandi, nous avons tous le besoin d'« être le changement que nous souhaitons de voir dans le monde. »

Cette année, d'ACEIP national a mis suite un défi pour notre membres, d'élever \$20, 000 pour la recherche de cancer de sein. J'ai maintenant avec grande d'honneur à énoncer que plus que 200 étudiants en pharmacie de 5 facultés de pharmacie se sont réunis pour élever plus que \$24, 000, dépassant beaucoup notre objectif. Félicitation à tous les participants à l'Université de Waterloo (\$6,736), l'Université d'Alberta (\$6,239), l'Université de la Colombie Britannique (\$4,328), l'Université de Laval (\$4,037) and l'Université de Dalhousie (\$3,254). Les totales sont impressionnantes à travers le conseil!

C'était un plaisir d'absolu de vous représenter jusqu'à date et j'ai hâte pour le restant de mon terme come Président national.

Bonne chance ce terme!

*Jillian Grocholsky*

Présidente d'ACEIP nationale

## Executive Reports

### PAST PRESIDENT

Polly Kwok



Since the hustle and bustle of meetings at PDW in Halifax this summer, most of my duties continue to involve support of both the president and president-elect, actively participation in the committees and some new initiatives in providing more transparency and communication with our members through social media (CAPSI Facebook page, twitter @CAPSINational). In addition, I have been and will continue to implement streamline certain administrative processes for CAPSI National council to increase efficiency and also promote communication between schools. In the upcoming months, the president turnover process will continue and I will also continue in provide any answers or CAPSI background information for CAPSI National council members where applicable.

### PRESIDENT ELECT

Jeff Wandzura



It was a pleasure to meet those of you who attended PDW 2012 in Halifax.

Congratulations to the PDW Planning Committee, and all the volunteers, for putting on another great conference.

Over the past few months, the Constitutional Review Committee (CRC) has been updating CAPSI's Bylaws and Operating Manual to allow the association to function at its highest level. A couple notable projects of the CRC are: reviewing CAPSI's position statement on entry level Pharm D programs and streamlining turnover procedures to ensure continuity between council years. A big thank you goes out to our Webmaster, Franky Liu, for keeping the CAPSI website up to date and looking great.

In mid-January, I helped facilitate a teleconference with the Blueprint Steering Committee and "Blueprint Student Champions" from a number of faculties. The call addressed ways in which students can help engage their peers, and bring awareness to the Blueprint's goals. We are still looking for a number of local "Student

Champions" to join our team, so please email me ([preselect@capsi.ca](mailto:preselect@capsi.ca)) if you are interested in getting involved.

As always, please feel free to email me with any questions, or visit our website at [www.capsi.ca](http://www.capsi.ca).

### VP EDUCATION

Graham Houk



I would like to begin by thanking and congratulating the PDW 2012 Planning

Committee for their dedication and incredible hard work over the past few years! The culmination of their efforts, PDW 2012 in Halifax, was truly an excellent event! I had the privilege to work closely with a couple members of the committee, specifically Kathleen Moran the Academic Chair, for the planning of the National Competitions. All the competitions ran smoothly and the competitors performed very well. The winners' names can be found on page 31 of this issue of the CAPSIL but I would like to highlight the first place winners: Congratulations to Ian Aucoin, Tim Buchanan, Chris grant, and Jamie Grandy from Memorial University of Newfoundland for placing first in the Medisca Compounding

## Competition!

Congratulations to Marko Tomas from the University of Toronto for placing first in the CAPSI Patient Interview Competition! Congratulations to Justine Manulak from the University of Manitoba for placing first in the Pfizer Consumer Healthcare Over-The-Counter Competition! Congratulations to Emily Li from the University of Alberta for placing first in the Student Literary Challenge! You can read her winning essay on page 18-19 of this CAPSIL edition. I would also like to congratulate and thank all of the competitors in the National Competitions. If you have any feedback about the competitions, please feel free to send me an email at [vped@capsi.ca](mailto:vped@capsi.ca).

Finally, I would like to update you on the CAPSI Award of Professionalism. This year, CAPSI received a record-breaking five submissions for this award! All submissions were excellent and the University of British Columbia was selected as the winner. Congratulations to UBC! To find out how you could win this award next year, please see the ad on page 10 of this issue of the CAPSIL.

It's been a pleasure and an honor to work with the CAPSI Council this year as the VP Education. I wish the Council and CAPSI members all the best in future and extend my wishes for the best of luck to all

graduating pharmacy students on the upcoming PEBC licensing exams!

## VP COMMUNICATIONS

Amy Lamb

The 2012-2013

Student Agenda is in the works!

Cover design is being developed and the CAPSI National submissions are being prepared.

Professional Development Week was an amazing success (which is already known by those who attended!). Our sponsors continue to generously provide the means to aid the planning committee in the development and execution of this amazing conference. Plan to attend next year in Montreal, Allonz-y!

The CAPSI Club sponsorship package will now include a Platinum Sponsorship level offering our interested partners an opportunity to support the organization at CAPSI's highest club level.

The Marketing Committee has been preparing materials to better represent the CAPSI organization to our stakeholders and members.



This coming fall we will release our first ever "CAPSI promotional video". With this initiative we hope to be transparent with all of our goals, initiatives and opportunities so our members can contribute and take part in CAPSI to the highest degree!

Similarly, the marketing committee is developing a Mission, Vision and set of Values as well as a Slogan for our organization. Look for this to be approved by the membership (YOU!) at professional development week, Montreal.

All the best in 2012 and congrats to my fellow graduates nationwide!

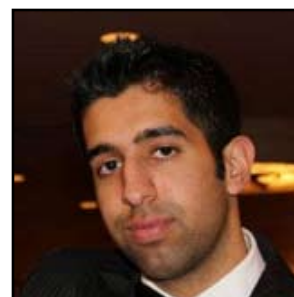
## VP PROFESSIONAL AFFAIRS

Gurinder Grewal

Hello CAPSI members! For those of you folks who were lucky enough to attend

PDW, I hope you had a great time in the beautiful city of Halifax!

Many schools have begun organizing and hosting the annual CAPSI Symposia for this academic year. The topics of



“Pharmacy Coast to Coast” and “Third Party Payer Systems” are being talked about by pharmacy students all across the country. A number of schools have their symposia scheduled for the second term, so do not fret if you have not had the chance to attend one yet at your school. If you have any interesting ideas for symposia topics for next year, I would love to hear about them!

Additionally, a lot of the schools have embraced taking part in a number of community outreach initiatives, especially the CAPSI-Teva Operation: Wash Up and Operation: Allergy programs. Contact myself or your local CAPSI representative to get involved!

The Interprofessional Strategic Planning Committee has been hard at work determining what types of interprofessional opportunities are currently available for students across Canada and new venues on how our pharmacy students can benefit through interprofessional education. The committee is looking into developing case-based scenarios that could be used in interprofessional modules. Additionally, our committee will be looking at ways to increase interprofessional education opportunities in pharmacy schools across the country. Expect to see more information regarding this in the future.

I had the opportunity to represent

pharmacy students during the first Canadian Interprofessional Students Network (CISN) teleconference of the new year. We set a number of goals for the upcoming year with regard to interprofessional education initiatives and promotion of our network to students from the various health care professions. Fee free to email me or visit [www.nahssa.com/cisn](http://www.nahssa.com/cisn) for more information.

If you have any questions/concerns/comments regarding anything that I am currently working on, or have ideas of your own regarding interprofessionalism, CAPSI symposia, or community outreach that you would like to see implemented nationally, please email me at [vppa@capsi.ca](mailto:vppa@capsi.ca) anytime.

## FINANCE OFFICER

Vincent Wong

Hello,  
it is my pleasure to assume the position as the new Finance Officer for CAPSI National for 2011-12. I'm a third year student at UBC.

I attended PDW 2012 and chaired my first Finance Committee Meeting, where we prioritized the use of increased funding secondary to a reallocation of funds from Professional Development Week.



One of such priorities is the funds allocated to the delegates attending Canadian Pharmacists Association Conference 2012 for increased travel costs as it is hosted in Whistler, BC.

Motions were passed at PDW to accept the financial statements prepared for the fiscal year ending March 31st, 2011, and to allow for an accountant to prepare the financial statements for the current fiscal year.

As I was elected in the bi-elections for Finance Officer in late 2011, there has been a delay for me in receiving signing authority from the financial institutions that we use; hence I hereby apologize for any delays in reimbursement to anyone requesting them. If you have any questions pertaining to the finances of CAPSI National, please feel free to email me at [finance@capsi.ca](mailto:finance@capsi.ca), and I will happy to address your concerns.

## EXECUTIVE SECRETARY

Julia Denomme

Since returning from PDW, I have been working to complete meeting minutes

from the conference so that they may be approved and to be





posted on our website. I have also been collecting feedback on the electronic elections held at PDW, while conducting bi-elections for the positions of President-Elect, Vice President Education, and IPSF Liaison. As the chair of the membership committee, I have been collaborating with my fellow committee members on a number of initiatives including a CAPSI events calendar for use by local representatives. In the coming months, I will be helping to create and organize an agenda for the Spring Teleconference, while also completing a changeover report for the incoming executive secretary.

## CAPSIL EDITOR

Juanita Lui

Hello CAPSI members! As some of you may have experienced, we had a very successful PDW! It was great getting to meet many of you at the conference!

Since my last update, I have been busy compiling articles for this issue of the



CAPSIL and have been starting the changeover process for our incoming CAPSIL editor that was elected at PDW (Niki Bajic)! She will be making an appearance in my last issue of the spring CAPSIL. I have been submitting updates to

CPhA's ClikInfo and been in contact with CPJ's editor for submitting articles from the CAPSIL for potential publication in the student corner of CPJ.

The translations committee was utilized very effectively with helping the PDW organizers proof-read French translations, especially with the PharmaFacts bowl! A special thank you to everyone on the translations committee, your help was much appreciated!

Immediately after this publication, I will be preparing for the spring CAPSIL. I would love to hear any ideas or pharmacist awareness week initiatives that are taking place at your schools! If you have any questions, concerns or would like to submit an article for the CAPSIL, please feel free to contact me at [capsil@capsi.ca](mailto:capsil@capsi.ca) at any time. Good luck with the rest of term!

## IPSF LIASON

Leila Clayton

There were three IPSF Internship Opportunities including one with UN-AIDs, the European Center for Disease Prevention and Control, and FIP/WHO with all applications due at the end of January. Suzanne and I had a meeting with the IPSF local representatives to discuss ideas for the Health Campaign on Anti-Counterfeit Drugs.



We also had a meeting at PDW and we are planning one for March. This summer the Toronto Pharmacy Open Doors program will be occurring August 12-17, 2012. This program is an opportunity for IPSF students from other countries to experience Pharmacy in Canada. I wrote an essay on Pharmacy in Canada over Christmas break which will be translated into Hebrew and published in a pharmacy magazine in Israel. This article will also be published in the CAPSIL and Pan-American Regional Office (PARO) Newsletter.

Students planning to attend SEP, an internship, or World Congress are reminded to apply for an IPSF grant and for local funding at their university to help pay for their trip as it is an educational experience.

Round one registration for World Congress 2012 held in Hurghada, Egypt began on January 15, 2012. Go to <http://www.ipsf2012.org/> for more information. Students attending SEP or World Congress are strongly encouraged to read travel advisories on all countries they are planning to visit on the Government of Canada's website: [http://www.voyage.gc.ca/countries\\_pays/menu-eng.asp](http://www.voyage.gc.ca/countries_pays/menu-eng.asp). If you have any questions or concerns please contact myself Leila ([ipsf@capsi.ca](mailto:ipsf@capsi.ca)) or Suzanne ([seo@capsi.ca](mailto:seo@capsi.ca)).

## STUDENT EXCHANGE OFFICER

Suzanne Soneff

Since the fall, the Student Exchange Program (SEP) applications for the 2012



summer were called for in October and were closed in December. If

you missed your chance this year, the applications should open for the 2013 year next October! We are currently able to send 29 students and hopefully we will be able to send everyone on the waitlist as well (there are not going to be second round applications, sorry!) . PDW was amazing (thank you to the Halifax committee!) but very busy. We weren't able to hold much of an IPSF information session, so for everyone who missed it, please contact your local IPSF Liaison or e-mail Leila or myself. Registration is now open for the Egypt 2012 World Congress, make

sure you are aware of all the travel advisories if you are interested in going! Right now, I am working on placing international students in pharmacies around Canada. If you are interested in showing students around this summer, drop me an e-mail and I can connect you with our incoming students! As always, if you have any questions about SEP, please feel free to contact me at seo@capsi.ca at any time!

## A Chance to Win \$1000: CAPSI Award of Professionalism

Sponsored by CAPSI National

The Award of Professionalism is awarded annually to the school that holds the most organized and professional Pharmacy Awareness Week (PAW) activities. PAW is held every year during the first full week of March! You should get involved because the winning school shall receive a \$1000 cash prize! The money will go straight to those students involved! Deadline for submission is May 18, 2010. It's really easy to apply, simply get a committee together to organize PAW activities and then tell us about them! Don't forget to include pictures! Contact your local CAPSI Representatives for more details and for your application form! Good luck to everyone!

## Une chance de gagner 1000 \$: Prix du professionnalisme de l'ACEIP

Commandité par ACEIP

Le prix du professionnalisme de l'ACEIP est remis annuellement à l'école qui organise la semaine de sensibilisation à la pharmacie (SSP) la plus professionnelle. La SSP se déroule à chaque année durant la première semaine du mois de mars! Vous devriez participer parce que l'école gagnante recevra un prix en argent de 1000 \$. L'argent sera remis directement aux étudiants participant! La date limite d'inscription est le 18 mai 2010. C'est très simple, rassemblez un comité et organisez des activités pour la SSP. Ensuite, faite parvenir votre inscription et n'oubliez pas d'y inclure des photos! Veuillez contacter vos représentants de l'ACEIP pour plus de détails et pour recevoir votre formulaire d'inscription! Bonne chance à tous!

# Student Interview

## Confessions of an International Pharmacy Graduate (IPG)

Interviewee: Shahzil Mohamed

Interview conducted by: Juanita Lui



*Briefly introduce yourself, background and education.*

My name is Shahzil Mohamed, I was born in Vancouver but grew up in Bobcaygeon, Ontario. Previously, I completed 2 years undergrad before getting accepted into Pharmacy at Liverpool John Moores University in the UK. I graduated with a MPharm degree in June 2010 and am anticipating on being a qualified pharmacist in Canada by March 2012.

*What do you need to license in Canada as an International Grad? Did you need to take a bridging course?*

A valid degree must go through an approval process which involves sending in transcripts, a copy of the degree and a few other documents to the PEBC. Once approved, I can write PEBC Evaluating exam. Then the following need to be completed in order to license:

- PEBC Qualifying exam part I and II (MCQ and OSCE),
- Jurisprudence exam which differs from province to province
  - TOEFL which is the English literacy exam
  - Studentship/Internship/Practical training which differs between provinces.

I took a bridging course to help get through the PEBC eval exam and the PEBC qual OSCE which I found pretty useful.

*How difficult was / is it to license in Canada?*

I'm actually still in the process of licensing in Canada. Some portions are frustrating especially having to pass the TOEFL considering that I was born and raised in Canada and went to school in England.

*Do you find pharmacy practice in Canada very different than in England?*

Yes, I find that in the UK the aims of pharmacy are different. I feel that in Canada we are much more business oriented in our community practice whereas in the UK we were trained to focus on various different aspects of patient care; from my few placements I've had in England.

*What are some challenges that you've faced licensing in Canada?*

I feel that there is very little guidance on what to study for the qualifying exam. There are at least 30 or 40 different recommended references on the PEBC website which can become very overwhelming! The course offered by some provinces is lengthy and costly. For example, the Canadian Pharmacist Skills (CPS) course in Ontario is 7 months long and costs \$13,000! I was fortunate to have the time and resources to consider taking the course.

*What are some pharmacy issues that are similar between England and Canada?*

Patient compliance! It's funny how in school we learn so many complex things but in the real world we filter out so much information and in some cases have days when we question why there wasn't a "Customer Service 101" course in school! As you can guess, I work in community pharmacy!

*Plans for the future?*

Good question! I'll continue to work in community for a few years then I'll see what opportunities cross my path. Pharmacy itself offers plenty of opportunities so it is just a matter of finding what fits my passion and lifestyle.

## Fast Food Pharmacy

-- *"This should only take 5 minutes, right?"*

Carrie Evans, 3rd year Pharmacy student, University of Manitoba



AS a second year pharmacy student, I was eager to spend my summer working in a community pharmacy for the first time to get a glimpse of what my role will be as a future health care professional. While I loved my job and where I worked, there was one aspect of working in the community setting that bothered me: the fact that many customers treated the pharmacy as a kind of drive-thru where they pick up their prescriptions. It was tough enough trying to keep up with the work flow and learn the many aspects of working in a community pharmacy; dealing with customers who had no appreciation for our work was not the rewarding experience I had expected it to be. It is my belief that this attitude toward our profession must change, not only for our own job satisfaction, but also for the safety of the patient.

Why are some of our patients so impatient when it comes to waiting for prescriptions? In my opinion, there are two main reasons: ignorance of what our profession entails, and the mentality of modern society. Likely the largest hurdle for our profession to overcome is the ignorance toward our professional duties and responsibilities. It is my experience that the majority of patients, and even my family and friends, have no idea what goes on behind the counter at their local pharmacy. When the only glimpse behind the counter is newsclips of pharmacists counting pills, it's no wonder that many clients believe that our job consists of counting pills and slapping labels on bottles. This belief isn't limited to just the general public; many health care professionals do not see our value outside of filling prescriptions either. If we

want to advance our profession and scope of practice, our first step is to raise awareness about our true value as a professional. Pharmacist Awareness Week (PAW) is a national campaign dedicated to this very task. However, I think there is room for improvement by getting more students and pharmacists involved to reach as many people as possible.

Another contributor to the "drive-thru" mentality is modern society. As a society, we are accustomed to getting what we want, when we want it. We have express check-outs at the grocery store, and drive-thru restaurants for meals on the go. When it comes to their prescriptions, some patients believe the pharmacy should work the same way: drop off the prescription, and pick it up five minutes later. Some pharmacies even have drive-thru windows where patients can just drive up to get their prescriptions filled. Coupled with the misconception that pharmacists spend all day counting pills, it's easy to see why some people are frustrated when we tell them it will take twenty minutes to fill their prescription.

On top of that, in large chain stores with pharmacies, there can be added pressure to offer good customer service on top of our professional duties. Recently, I read about a pharmacy chain in the U.S. that had established a "15 Minute Guarantee" where the chain guaranteed that prescriptions would be filled in fifteen minutes or less, and if it wasn't, the customer would receive a \$5 gift card (Tenebaum). Needless to say, pharmacists were quick to speak out against the policy, and in New York, it was only days later that the Board of Pharmacy promptly told the company responsible that the policy was unacceptable. Policies such as these often originate at a corporate management level, where pharmacists are not involved in their creation, and therefore the management likely does not realize the dangers of implementing a policy that would cause a pharmacist to rush through the dispensing process. By guaranteeing a time limit on prescription filling, prescription accuracy and patient safety are no longer the primary concern, potentially

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**INDUSTRIAL PHARMACY RESIDENCY PROGRAM  
LESLIE DAN FACULTY OF PHARMACY  
UNIVERSITY OF TORONTO**

The one-year Industrial Pharmacy Residency Program, sponsored by the Leslie Dan Faculty of Pharmacy, University of Toronto, in cooperation with the Faculty of Pharmacy, University of Montreal and participating companies, offers recent graduates an opportunity to advance their knowledge in this field of pharmacy.. The participating companies for the 2013 – 2014 term are expected to be: Eli Lilly Canada Inc., Express Scripts Canada, GlaxoSmithKline Inc., Hoffmann-LaRoche Ltd., Janssen Inc., Merck Frosst Canada Ltd., and Patheon Inc. **For further information, please contact the coordinator, J. Graham Nairn at 416-978-2881 or the assistant, Diana Becevello at 416-978-2880. Full information, to be updated in the summer, is provided at the website [www.pharmacy.utoronto.ca](http://www.pharmacy.utoronto.ca)**

### ....Fast Food Pharmacy (continued from previous page)

leading to errors that in some cases could cost a patient his or her life. As any pharmacist can confirm, filling prescriptions accurately can be difficult enough as it is with distractions such as phones ringing and customers asking which aisle dog food can be found in. Adding a time limit to the process could be disastrous. While it is important that the prescription filling process is efficient, it shouldn't be at the cost of patient safety. As Tenebaum points out, "the only guarantee that should be given is that we will take the time necessary to ensure that the prescription is complete and correct in every way."

When I look to the future, I imagine that I will be applying the extensive knowledge gained in school under an expanded scope of practice that will eventu-

ally be ubiquitous to pharmacy practice across Canada. I hope that patients and other health care practitioners will have a better understanding of our role as part of the health care team. However, to achieve this, we must start now, as students, and find ways to show the public and our colleagues what we are capable of, and that we are not limited to being pill counters.

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# Sponsor Message



## CPhA Update: Wishing you a happy and successful year!

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Leah Phillips  
CPhA Student Board  
Member  
University of  
Saskatchewan



throughout PDW including the welcoming gala and the Health Fair. Hopefully everyone had an opportunity to stop by our booth, say hi and get engaged

in some of CPhA's current initiatives. Each year CPhA is amazed with the amount of hard work and planning that goes into ensuring PDW is a successful event and this year is definitely no exception. Way to go! Whether you are a first year student just becoming familiarized with the world of pharmacy or a fourth year pharmacy student preparing for the dreaded PEBCs and professional world, CPhA will help you take control of your future, both as a student and throughout your pharmacy career.

AS we enter a new year full of school, family and friends, we will have many new opportunities. You will have many exciting experiences and reach milestones ranging from completing the first year of the pharmacy program to approaching the end of your education and beginning your professional career as a licensed pharmacist. Finishing my fourth and final year of the pharmacy program, I am eager to begin practising and contribute to the health and wellness of my patients, and to advocate for myself as an individual pharmacist and for the overall profession of pharmacy. I know I do not carry this task alone, and have the support of CPhA as our national leadership body and the support of dedicated and passionate pharmacists and pharmacy students across Canada. Together, we can help create exciting practice environments for pharmacists.

Recently, CPhA and CAPSI, our two national associations representing pharmacists and pharmacy students, had a joint officers meeting at this year's PDW conference in Halifax. This was a unique opportunity allowing CPhA to not only continue, but also strengthen its partnership with CAPSI and the student population. In addition to the joint officers meeting, CPhA was thrilled to participate in various events



## Les actualités de l'APhC : Du succès tout au long de l'année!

Leah Phillips  
Représentante des étudiants au conseil de l'APhC  
Université de la Saskatchewan



À l'aube d'une nouvelle année remplie d'activités académiques, familiales et sociales, de nombreuses possibilités s'offrent à nous. Vous vivrez sans doute plein d'expériences enrichissantes et vous franchirez des étapes importantes, que ce soit la fin de votre première année d'étude en pharmacie ou encore la fin de vos études et le début de votre carrière de pharmacien ou pharmacienne. Je suis rendue à la fin de la quatrième et dernière année du programme de pharmacie. J'ai très hâte de commencer à pratiquer pour contribuer à la santé et au bien-être de mes patients et de plaider en ma faveur à titre de pharmacienne de même que pour l'ensemble de la profession. Je sais que je n'aurai pas à m'acquitter de cette tâche seule, car je pourrai compter sur le soutien de l'APhC, notre association nationale qui fait preuve de leadership en la matière, et sur le soutien de pharmaciens et d'étudiants en pharmacie passionnés et engagés partout au Canada. Ensemble, nous pouvons créer des environnements de pratique stimulants pour les pharmaciens et les pharmaciennes.

Récemment, les dirigeants de l'APhC et de l'ACEIP, les deux associations nationales représentant les pharmaciens et les étudiants en pharmacie, ont tenu une réunion conjointe durant la SDP, à Halifax.

Cette rencontre a permis à l'APhC non seulement de poursuivre, mais aussi de renforcer son partenariat avec l'ACEIP et avec la population étudiante. Outre la réunion conjointe des dirigeants, l'APhC a beaucoup apprécié les divers événements tout au long de la SDP, y compris le gala d'ouverture et la foire de la santé. J'espère que tout le monde a eu l'occasion de venir nous dire bonjour à notre stand et de participer aux initiatives courantes de l'APhC. L'APhC s'émerveille d'année en année de la quantité de travail et de planification qui fait de la SDP une réussite complète. Cette année n'a pas fait exception. Bravo!

Que vous soyez étudiant ou étudiante de première année et que vous commenciez tout juste à vous familiariser avec le milieu de la pharmacie ou que vous soyez en quatrième année et que vous vous prépariez pour les examens du BEPC et pour votre entrée dans le milieu professionnel, l'APhC vous aidera à façonner votre avenir tout au long de vos études et de votre carrière.



## The Health Benefits of Yoga

Katie Ried  
University of Alberta  
Class of 2013



The ancient art of yoga, which originated in India, has been practiced for thousands of years. Until very recently, however, much of the public viewed yoga as something restricted for the wheatgrass drinking, tree-hugging, granola eating hippy-types. In 1998, the first Lululemon store was opened in Vancouver, and suddenly the 5000 year old spiritual practice of yoga was the hot new trend. Similar to what Nike did for running, Lululemon catapulted yoga into the public spotlight. With such a rapid rise to fame, however, came a great deal of skepticism. Believe me- I was unconvinced that yoga would have any more staying power than Vanilla Ice, or Mark Hamill (sorry, Star Wars fans...). And yet, over a decade later, yoga continues to grow in popularity. As yoga continues to reach the masses, its healing power and health benefits have become increasingly apparent, one of the main reasons I believe yoga has maintained its position of celebrity.

You may hear your dedicated yogi friends preaching the benefits of yoga, saying: “My chakras have become so aligned,” or “my prana is totally flowing...” Or perhaps you have witnessed your less Sanskrit-savvy peers noting that yoga just makes them feel “more relaxed,” “less stressed,” and they have noticed that they are sleeping better, or getting sick less often. As attractive as this all sounds, let’s be serious: we are pharmacy students, and we need cold, hard, peer-reviewed evidence to convince us of such things!

In the last few years, Western science has found increasing evidence indicating the major physiological and psychological benefits of regular yoga practice. All one need do is type “yoga” into PubMed to find an array of articles discussing the health benefits of yoga. Evidence has shown that yoga acts on pathways such as the hypothalamic pituitary adrenal (HPA) axis and the sympathetic nervous system to down regulate the production of substances like cortisol, inflammatory cytokines and catecholamines. As you all know from your extensive studies, the HPA and sympathetic system are activated by environmental or psychological stressors, and the over activation or continual stimulation of these systems can eventually lead to conditions such as autoimmune disease, obesity, diabetes, depression, substance abuse, and cardiovascular issues. Yoga’s ability to stimulate mainly the parasympathetic system leads to benefits such as lowered heart rate, blood pressure, and a general sense of well-being. Yoga, as a weight bearing exercise, also has more anatomical benefits such as lubrication of joints with synovial fluid, decreased risk of osteoporosis, improved posture and core strength, increased lung capacity, improved circulation, and the list goes on...

If the current research is not enough to convince you, allow me to share some anecdotal evidence with you. Since I started practicing yoga regularly 5 years ago, I have become a much more balanced and happy person. My real faith in the healing power of yoga, however, comes from my Mom. My mom started practicing yoga 15 years ago after she was in a car accident and suffered a major whiplash injury. She quickly found that yoga decreased her pain and allowed for a greater range of motion in her neck. She constantly extolled the wonderful health benefits of yoga, but I remained skeptical. After practicing yoga for over 10 years, my Mom decided that she wanted to take formal yoga training to become a yoga teacher. Only a few months into her teacher training, my Mom was diagnosed with aggressive breast cancer. She was immediately booked for a full mastectomy, and slotted to start chemotherapy shortly afterwards.

**..continued on next page**



## The Health Benefits of Yoga ...continued from previous page

Though she took a few weeks off to recover after surgery, my Mom was eager to get back on her mat and start practicing again. The doctors had warned her that the surgery and build-up of scar tissue would restrict the motion in her arm, and that the intense chemotherapy regimen would put her out of commission. Even through her 6 rounds of chemo, my Mom attended her yoga teacher training and practiced daily. I told my Mom that she should “take it easy,” but she was adamant that she continue with her practice, explaining that the mind/body/breath connection of yoga had greatly minimized the side effects of nausea, stress, pain and fatigue associated with her treatment. When she returned to the hospital for her first evaluation following treatment, her doctors were astounded at how well she was doing- a recovery she attributed greatly to yoga.

Now almost 2 years after she completed her chemo, my Mom has been certified as a Hatha yoga instructor, and teaches 10 students on a weekly basis, as well as regularly instructs a choir of over 60 kids in yoga practice, and holds classes for schools and sports teams around Calgary. Many of her students have health concerns of their own, such as anxiety, depression, chronic back pain and cancer, and have found yoga extremely beneficial in the management of their conditions.

When asked her reasoning for keeping up her yoga practice, my Mom says, “Daily asana practice fosters a more positive attitude and gives me easily accessible tools to cope with daily stressors. I think that everyone benefits from yoga; not just the practitioner, but everyone who comes into contact with that happier, more grounded individual!”

Whether you are a complete beginner, or a master yogi, yoga practice can help instill well-being and nourish your mind, body and spirit. If you haven’t done so already, I encourage you to pick up a mat and delve into the endless potential for improved health that comes with yoga practice.

Namaste!



My Mom, practicing tree pose, or *Vrksasana*, amongst the trees.

## Canada's HPV Vaccination Program: Re-evaluating the Need for Mass Immunization

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Emily Li  
University of  
Alberta



AS the public gains awareness about pharmacists' expanding roles in immunization, the provision of accurate advice regarding vaccines becomes increasingly important. Gardasil®, touted as a cancer preventing vaccine, boosts the immune system against strains 6, 11, 16, and 8 of human papillomavirus (HPV), of which the latter two lead to 70% of cervical cancers<sup>1</sup>. In 2007, the Canadian Government launched a \$300 million national vaccination program to administer this "landmark" 2 vaccine to girls as young as nine years old<sup>2</sup>. Although Gardasil® is a major advancement in public health, should all girls receive the vaccine? First, HPV does not pose an immediate health threat for the majority of Canadian women. In addition, with current cervical cancer screening technologies, a national vaccination program is not the most cost-effective way to combat this particular cancer. Finally, whether or not it will have an overall benefit in reducing

cervical cancer rates remains to be seen, due to uncertainty surrounding its long-term efficacy and role in the cervical cancer prevention program. With all these factors in mind, it is essential for pharmacists to provide parents a complete picture of both sides of the issue rather than a blanket recommendation to vaccinate.

Though HPV has its risks, the nature of the virus makes it far from being a threat to public health. Parents may feel pressured to vaccinate their children due to the portrayal of HPV in the media as a widespread, cancer-causing virus<sup>2</sup>, but, in fact, most healthy individuals who contract HPV will not develop any disease<sup>1</sup>. The National Advisory Committee on Immunization recently released a report, "Statement on Human Papillomavirus Vaccine<sup>1</sup>", that confirms that most immune-competent women are able to clear the oncogenic strains of HPV within 4 to 20 months<sup>1</sup>. Pre-cancerous lesions take an average of 10 years to progress to carcinoma, can be detected by a routine pap smear, and are easily removed<sup>1</sup>. In fact, screening technology has drastically reduced mortality from cervical cancer in the past 30 years<sup>1</sup>. Currently, only 400 women die of cervical cancer per year, 60% of which were unscreened or underscreened (screening less than every 3 years)<sup>1</sup>. Unlike diseases such as measles, which is deadly and highly contagious, the HPV virus does not pose a grave threat for all children. Should the government be putting millions of dollars towards

preventing the transmission of a virus that is avirulent, easily detectable and treatable? By launching a national vaccination program, many children will be receiving a vaccine that they do not need.

Considering the unique features of the HPV virus, the cost effectiveness of a nation-wide vaccination program has yet to be proven. Proponents of the vaccine say that vaccination programs will save money by reducing the cost of disease management<sup>3</sup>. This presumption may hold true in countries with poor health care access; however, a Canadian study on the cost effectiveness of the HPV vaccine suggests that the vaccination program will cost more in the long run<sup>4</sup>. After accounting for variables such as inflation, potential savings, and vaccine efficacy, Brisson et al. concluded that "unless screening is modified..., the cost of the HPV immunization will strongly outweigh the [savings] through reduced health care use"<sup>4</sup>. Vaccinating 100,000 girls is expected to save the health care system \$7.2 million, but at a cost of \$40 million<sup>4</sup>. Even women who have been immunized are urged to continue regular Pap smear screening<sup>1</sup>, since 30% of cancer-causing HPV strains are not covered by the vaccine. In addition, the cost-effectiveness of the vaccine greatly decreases if its potency declines in the long run, a question that remains to be answered. At \$360 per child<sup>2</sup>, not including any booster shots that may be needed in the future, the

Canadian government is misusing its resources. As stewards of a sustainable and equally accessible public health care system, pharmacists should focus on promoting the use of the screening program that is currently in place, which is both cost-effective and beneficial all women, not only girls eligible for the vaccination. With Gardasil® being such a new vaccine, questions about its efficacy and long-term role in cancer “prevention” remain to be answered. The Phase III clinical trials which allowed Gardasil® to gain regulatory approval and worldwide recognition boast an impressive success rate of almost 100% in preventing infection<sup>5</sup>. However, closer examination of the study reveals that this percentage only applies to diseases caused by four specific HPV subtypes. Surprisingly, the vaccine is only 30% effective when one considers all 100 HPV subtypes<sup>5</sup>, far from guaranteed protection, and the duration of protection beyond 60 months remains unknown<sup>1</sup>. Furthermore, it is difficult to predict how widespread utilization of this “cancer vaccine” will affect behaviours towards cervical cancer screening. If women develop a false sense of security after receiving the immunization, participation in screening programs may decrease. For a condition that relies on early detection for treatment success, this shift in attitude could be detrimental to cervical cancer rates. The introduction of regular cervical cancer screening has approximately halved incidence and mortality rates since 1979, and inadequate or lack of screening is considered to be the primary attributable factor to cervical cancer mortality<sup>7</sup>. Optimization of the established and proven screening program confers a more practical and proven way of reducing cervical cancer rates.

The release of the “landmark” 1 HPV vaccine has prompted an overzealous reaction by the Canadian government. Instead of following the opinion of the media, pharmacists should adopt a more balanced view of the issue: HPV-related diseases do not represent an urgent public health threat for all women and little is known about the long term efficacy of the vaccine. Instead of a push for mass immunization, the government should consider increasing promotion and access to in regular screening, especially in higher risk populations. When advising parents on whether or not

to include their child in the vaccination program, pharmacists have a duty to inform them of all the facts, taking each patient’s situation, beliefs, and preferences into consideration.

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**Congrats again to Emily Li, winner of the Student Literacy Challenge, sponsored by:**





# Student Experience

## Students take part in government relations at their placement with the Canadian Pharmacists Association (CPhA)

Written By:  
(Left to Right)

Vivian Lee  
(University of  
Waterloo), Niki  
Bajic (University  
of Waterloo) and  
Rebecca Strong  
(University of  
Nebraska)



On September 28, 2011, we had a unique opportunity to attend the biannual meeting with Health Canada's Health Products and Food Branch (HPFB) and CPhA senior staff. The HPFB's mandate is to take an integrated approach to manage the health-related risks and benefits of health products and foods. The meeting discussed various issues involving the provision, access and labeling of pharmaceuticals that impact both the way we practice as student pharmacists and the quality of drug therapy our patients receive. We are excited to share three of these issues in the current issue of CAPSIL.

### Drug Shortages

Starting July 2010, the Canadian Pharmacists Association (CPhA) began receiving an increasing number of anecdotal reports of drug shortages across Canada. Drug shortages not only create inefficiencies in the pharmacy workflow, but also delay treatment or result in suboptimal treatment for patients, the short and long-term consequences of which are compromised patient care and thus potentially increasing

health care expenditures. In response, CPhA conducted an online survey of its members to obtain a better understanding of the shortage problem. In December 2010, CPhA publicly released the survey results which gained widespread media attention in the Globe and Mail, CBC, CTV, National Post, Radio Canada and numerous other regional outlets.

We highly encourage you to check out the drug shortages section of the CPhA website for CPhA's updates, resources and media coverage on this issue!

As Vivian recalls from working in a community pharmacy in the summer of 2010, she saw how prolonged shortages required changes in therapy and caused confusion and potentially poor medication adherence in some patients, for example:

- a shortage of Cephalexin oral tablets resulted in dispensing oral suspensions which were less palatable
- Amitriptyline prescriptions required substitution with Nortriptyline
- a shortage of Spirozone required dispensing the individual components (Spironolactone and Hydrochlorothiazide) in two bottles

In addition to compromised patient care, drug shortages raise ethical considerations involving rationing as well as safety concerns regarding therapy duplication. The latter may occur when both the substitute and backordered drug may inadvertently remain active in the patient's drug profile in the computer system, risking both to be dispensed to the patient.

To identify the significance and extent of the problem across Canada as well as assist pharmacists and physicians to better prepare for drug shortages, the federal Minister of Health called for a national voluntary reporting system to be created. An eight-member working group led by CPhA has been formed and consists of: BIOTECanada, Canadian Association for Pharmacy Distribution Management (CAPDM), Canadian Association of Chain Drug Stores (CACDS), Canadian Generic Pharmaceutical Association (CGPA), Canadian Medical Association (CMA)



# Student Experience



Canadian Society of Hospital Pharmacists (CSHP) and Canada's Research-Based Pharmaceutical Companies (Rx&D). As a result of these efforts, Canada's two leading drug manufacturing associations – CGPA and Rx&D – have agreed to collect from their member companies, drug shortage information that is expected to include drug name, dosage form, manufacturer, reason for shortage and expected availability date. This information is now posted publicly on two existing regional drug shortages reporting websites, the Saskatchewan Drug Information Service and Friday PM. While this is only a temporary solution, the working group will continue to work to create a “one-stop shop” drug shortage monitoring system that will offer additional information such as drug substitution options. It will certainly be interesting to see how we, as student practitioners, along with our colleagues, will respond more efficiently to drug shortages to maintain quality and continuity of our care for patients in the years to come.

## Non-medicinal ingredients in OTC products

We learned that by May 2012, Health Canada will be calling on all non-medicinal ingredients (NMIs) to be labeled on over-the-counter drug products. A NMI is defined as “a substance, other than the pharmacologically active drug, that is added during the manufacturing process and that is present in the finished drug product”. These include flavouring agents and excipients that mask an otherwise unfavourable taste and are required to manufacture pharmaceutically stable drug products, respectively.

In our past community pharmacy experiences, we've encountered a number of patients whom we believe will be able to make more informed decisions in the self-selection of OTC products if they had complete NMI labeling. As an example, individuals with diabetes will be able to confidently select cough syrups that are clearly indicated to be both glucose free and alcohol free. If patients happen to be lactose intolerant or allergic to nuts, they may also check the ingredient list to determine any presence of lactose or nuts in the product. We hope that NMI labeling will

help to reduce the risk of food- and disease- related interactions with OTC products.

For more information relating to this regulation, check out the Canada Gazette, the official newspaper of the Government of Canada established in 1841. Canadians have been using this gazette to access the laws and regulations that govern their daily lives!

## Medical Marihuana

Health Canada's Medical Marihuana Access Program defines specific circumstances under which patients are permitted to access marihuana for medical purposes. This program is intended for patients who have severely debilitating conditions or require end-of-life care, including those with severe symptoms from multiple sclerosis, spinal cord injury or disease, cancer, HIV/AIDS infections, arthritis and epilepsy.

At the meeting, we learned that Health Canada, upon consulting with drug plan managers from various provincial jurisdictions, noted interest for a potential pharmacist role in dispensing medical marihuana. While narcotic thefts and prescription forgeries are already a problem in some community pharmacies, we believe that keeping a supply of medical marihuana will complicate the issue of public safety. In addition, our concerns about the effectiveness, safety and standardization of medical marihuana will warrant a thorough consideration of both the risks and benefits of this extended pharmacists' role. CPhA shares our same concerns as elaborated in a letter to the Controlled Substances and Tobacco Directorate, and will be planning subsequent discussions with Health Canada.

In conclusion, our meeting with the Health Products and Food Branch was an eye-opening experience. Not only did we take part in discussions that are occurring on the federal level to improve the health of Canadians, we also learned how CPhA, our national voice for pharmacists, is responding to some of these issues that potentially impact how we practice as students today and as pharmacists tomorrow.

## Des étudiantes interviennent dans les relations gouvernementales au cours de leur stage avec l'Association des pharmaciens du Canada (APhC)

Rédigé par :  
Vivian Lee (Université de Waterloo)  
Niki Bajic (Université de Waterloo)  
Rebecca Strong (Université du Nebraska)



Le 28 septembre 2011, nous avons eu une occasion unique d'assister à la réunion semestrielle de la Direction générale des produits de santé et des aliments (DGPSA) et des cadres supérieurs de l'APhC. Le mandat de la DGPSA est d'adopter une approche intégrée pour gérer les risques pour la santé et les avantages des produits de santé et des aliments. Au cours de la réunion, on a discuté de diverses questions relatives à la prestation et à l'étiquetage des produits pharmaceutiques et à leur accès qui ont une incidence sur notre façon d'exercer la profession en tant qu'étudiants en pharmacie et sur la qualité de la pharmacothérapie que nos patients reçoivent. Nous sommes heureuses de vous présenter trois de ces questions dans ce numéro du JACEIP.

### Pénuries de médicaments

Depuis juillet 2010, l'Association des pharmaciens du Canada (APhC) a reçu un nombre de plus en plus grand de rapports isolés concernant les pénuries de médicaments partout au Canada. Les pénuries de médicaments représentent non seulement un manque d'efficacité pour le travail des pharmaciens, mais elles retardent également le traitement ou les résultats d'un

traitement sous-optimal des patients, dont les conséquences à court et à long terme sont des soins aux patients de moins bonne qualité, ce qui pourrait éventuellement accroître les dépenses en soins de santé. En réaction à ces faits, l'APhC a effectué un sondage en ligne auprès de ses membres afin de mieux comprendre le problème lié aux pénuries. En décembre 2010, l'APhC a rendu public les résultats du sondage qui ont fait l'objet d'une vaste couverture médiatique dans le Globe and Mail, à la CBC, à CTV, dans le National Post et à Radio-Canada et dans de nombreux autres médias régionaux.

Nous vous encourageons grandement à consulter la section sur les pénuries de médicaments sur le site Web de l'APhC pour obtenir des mises à jour, des ressources et pour lire les articles à ce sujet.

Vivian se rappelle que lorsqu'elle travaillait dans une pharmacie communautaire à l'été 2010, elle a vu comment les pénuries prolongées nécessitaient des changements dans les thérapies et causaient de la confusion et éventuellement une faible observation de la médication chez certains patients, par exemple :

- une pénurie de comprimés oraux de cephalexin a fait en sorte que des suspensions orales moins agréables au goût ont été distribuées;
- les ordonnances d'amitriptyline ont dû être remplacées par de la nortriptyline;
- en raison d'une pénurie de spirozine, on a dû distribuer les composants individuels (spironolactone et hydrochlorothiazide) dans deux bouteilles distinctes.

En plus de modifier les soins aux patients, les pénuries de médicaments soulèvent des considérations morales quant au rationnement, ainsi que des préoccupations relatives à l'innocuité de la duplication thérapeutique. Cette dernière peut survenir lorsque les substituts et les médicaments en rupture de stock peuvent demeurer actifs par inadvertance dans le profil pharmaceutique du patient dans le système informatique; les deux médicaments risquent d'être tous les deux administrés au patient.

Pour déterminer l'importance et l'étendue du problème au Canada, ainsi que pour aider les pharmaciens et les médecins à mieux se préparer aux pénuries de médicaments, la ministre fédérale de la Santé a demandé qu'un système de déclaration volontaire soit mis sur pied. Un groupe de travail, composé de huit membres et dirigé par l'APhC, a été formé pour représenter BIOTECanada, l'Association canadienne de la gestion de l'approvisionnement pharmaceutique (CAPDM), l'Association canadienne des chaînes de pharmacies (ACCP), l'Association canadienne du médicament générique (ACMG), l'Association médicale canadienne (AMC), la Société canadienne des pharmaciens d'hôpitaux (ACPH) et les Compagnies de recherche pharmaceutique du Canada (Rx&D).

À la suite de ces efforts, deux associations importantes de fabricants de médicaments du Canada, l'ACMG et Rx&D, ont convenu de recueillir auprès de leurs compagnies membres les renseignements sur les pénuries de médicaments prévues, notamment le nom du médicament, la forme dosifiée, le nom du fabricant, la raison de la pénurie et la date de disponibilité prévue. Ces renseignements sont maintenant affichés publiquement sur deux sites Web régionaux de déclaration de pénurie de médicaments, le Saskatchewan Drug Information Service et Vendredi PM. Bien que cette solution ne soit que temporaire, le groupe de travail continuera ses travaux visant à mettre en place un système de surveillance des ruptures d'approvisionnement de médicaments « multiservice » qui offrira des renseignements supplémentaires tels que des options de substitution de médicament. Il sera certainement intéressant de voir comment nous pourrons, en tant que praticiens étudiants, avec nos collègues, réagir plus efficacement aux pénuries de médicaments pour maintenir la qualité et la continuité de nos soins aux patients au cours des prochaines années.

**Ingrédients non médicinaux dans les produits en vente libre**

Nous avons appris que d'ici mai 2012, Santé Canada exigera que tous les ingrédients non médicinaux soient indiqués sur les produits vendus sans ordonnance. Un

ingrédient non médicinal est défini comme étant « une substance, autre qu'une drogue pharmacologiquement active, ajoutée à la drogue au cours de la fabrication et présente dans le produit fini », ce qui inclut les agents aromatisants qui masquent un goût désagréable et les excipients qui sont requis pour fabriquer des produits médicinaux stables sur le plan pharmaceutique.

Au cours de notre expérience au sein des pharmacies communautaires, nous avons rencontré un certain nombre de patients qui, selon nous, pourront prendre des décisions plus éclairées en choisissant eux-mêmes des produits en vente libre si les ingrédients non médicinaux sont indiqués sur les étiquettes. Par exemple, les personnes souffrant de diabète pourront choisir des sirops pour la toux dont l'étiquette indique clairement qu'ils sont sans glucose et sans alcool. Si les patients ne tolèrent pas le lactose ou s'ils sont allergiques aux noix, ils pourront également vérifier la liste d'ingrédients afin de savoir si les produits contiennent du lactose ou des noix. Nous espérons que l'étiquetage des ingrédients non médicinaux aidera à réduire les maladies et les risques d'interactions associés aux aliments et aux produits vendus sans ordonnance.

Pour de plus amples renseignements relatifs à cette réglementation, consultez la Gazette du Canada, le journal officiel du gouvernement du Canada publié depuis 1841. Cet outil est mis à la disposition des Canadiens pour leur donner accès aux lois et aux règlements qui régissent leur vie quotidienne!

**Marihuana à des fins médicales**

Le Programme d'accès à la marihuana à des fins médicales de Santé Canada définit les circonstances particulières dans lesquelles on permet aux patients d'avoir accès à de la marihuana à des fins médicales. Ce programme est destiné aux patients souffrant de maladies graves et débilitantes ou qui nécessitent des soins palliatifs, notamment ceux qui présentent des symptômes graves de sclérose en plaques, de traumatisme médullaire ou de maladie de la moelle épinière, de cancer, du VIH/sida, d'arthrite et d'épilepsie.

**Continué à la page 24**

## Continué de la page 23

Au cours de la réunion, nous avons appris que Santé Canada, après avoir consulté les gestionnaires d'assurance-médicaments des diverses compétences provinciales, a pris note de l'intérêt envers le rôle éventuel que pourraient jouer les pharmaciens dans la distribution de la marijuana à des fins médicales. Bien que le vol de stupéfiants et la contrefaçon d'ordonnances soient déjà un problème dans certaines pharmacies communautaires, nous croyons que le fait de conserver un approvisionnement de marijuana destinée à un usage médical compliquera la question relative à la santé publique. De plus, nos préoccupations quant à l'efficacité, à l'innocuité et à la normalisation de la marijuana médicale justifieront un examen approfondi des risques et des avantages de ce rôle élargi

des pharmaciens. Une lettre adressée à la Direction des substances contrôlées et de la lutte au tabagisme indique que l'APhC a les mêmes préoccupations que nous; d'autres discussions seront planifiées avec Santé Canada.

Pour conclure, notre réunion avec la Direction générale des produits de santé et des aliments a été une expérience révélatrice. Nous avons non seulement pris part aux discussions soulevées à l'échelle fédérale pour améliorer la santé de la population canadienne, mais nous avons également appris comment l'APhC, la voix nationale des pharmaciens, réagit à certaines de ces questions qui peuvent avoir une incidence sur notre façon d'exercer notre profession en tant qu'étudiants aujourd'hui, et en tant que pharmaciens demain.

## Perspective on the Pharmaceutical Industry: A 'Red Queen's Race' in Healthcare

By Tyler Robinson  
University of Toronto



In Lewis Carroll's *Through the Looking Glass*, Alice has a conversation with the Red Queen, a chess piece, while running but remaining in the same spot: "Well in our country," said Alice panting a little, "you'd generally get to somewhere else – if you ran very fast for a long time, as we've been doing."

"A slow sort of country!" said the Queen, "Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!" This is the fundamental basis of an evolutionary hy-

pothesis, "the red queen race", that states in order for a species to survive amongst others competing within the same environment, it must be able to continually adapt<sup>1</sup>. This hypothesis has been used to explain the "need" for males in an evolutionary system (2), and the arms race between nations (3).

Personally, I see the Red Queen's race in effect for the pharmaceutical industry to compete within its economic environment. Investment in the pharmaceutical industry serves two purposes; a healthier population and profit. The risks and rewards of which are high for stakeholders. While health care relies on innovators to improve disease management, society relies on generic firms to maintain costs. However, the ability to generate newer and more effective medicines is becoming increasingly important as generic drug firms gain rights to manufacture an increasing proportion of the drugs patients receive each year. Furthermore, safety, legal and constitutional barriers impede the efficiency of innovators to successfully market new drug substances. The drug development process is both expensive and time consuming, and the fact that policy makers around the world reward innovators to variable **(continued on page 25)**



## ..'Perspective on Pharmaceutical Industry' .....continued from pg 24

degrees for the therapies they deliver makes the global industry very heterogeneous.

### The Past: Why they're running

The pharmaceutical industry is unique in that profits are not a function of investment. New medicines are only rewarded if they demonstrate pharmacoeconomic value. As threats loom in the industry, it must continually adapt. Furthermore, an estimated one in ten thousand prospective small molecules meet market safety standards, and the process to find out (via clinical trials) may exceed 1 billion. (4)

Pharmaceutical companies therefore must streamline development to be as efficient as possible in selecting new drug candidates. They must keep running in order to stay ahead of one another, and the generic competitors. The 'survival of the fittest' principle certainly applies to this business. Fortunately, success of the industry is shared with society in the form of better therapies. However, society also shares the risks of poor quality drugs. Consider Merck's situation with Vioxx®, to which the FDA attributes more than 100,000 myocardial infarcts. Increasing pharmacovigilance forces the industry to assume responsibility, and thus incur greater costs to establish safety. This is further complicated by differing standards worldwide and heterogeneity in health care practises. Another obstacle for pharmaceutical companies is intellectual property (IP) law and health policy which affect the profitability of drugs. Here in Canada, we have strengthened IP law in accordance with countries to whom we offer free trade, to establish fair markets that coincidentally increases the period for which brand drugs are free from generic attack. Currently, new brand drugs are guaranteed eight years of exclusivity. What Grootendorst et al. suggest is that in practise, this period is even shorter (5). The reason being that exclusivity period is calculated from the launch date, not when these drugs are acces-

sible to patients on large public drug plans, so those first few years are associated with poor profits. More generic firms are entering the market with lower cost versions of these products, which economists would accept for a measure of success in the industry. To focus on Canada which represents about 3% of the global pharmaceutical industry, amongst OECD countries we rank third in our ratio of 'value:volume' utilization of generic drugs. This suggests we pay significantly more for generic drugs than other countries. Perhaps this is why innovators are doing minimal research in Canada; our health policy favours generics. The Red queen is at work.

### The Present: Adaptation

The modern pharmaceutical industry has adapted to the challenges above in three major ways. The first being the way they strategize new therapies. Biologics are free from generic threat. Looking forward, in 2016 Forbes predicts Humira® (adalimumab) will be the best selling drug in the world. Similarly, innovators are now segmenting markets of new drug products, or steering away from the "blockbuster" model. Currently, it is estimated to take approximately 15 years for full development of a new drug, however with segmented markets it may be possible to shave years off due to more targeted (and less timely) safety and efficacy studies. Furthermore, this will dampen the benefit to investment ratio for generic firms. Secondly, 'indication sequencing' is becoming a popular strategy to increase market access. This involves gaining market approval for indications which are more accessible and expanding the market coincidentally extending the period of exclusivity, via a new valid patent. For example, Viagra's patent life was slightly extended by marketing the PDE-5 inhibitor sildenafil for pulmonary hypertension under the brand name Revatio. Finally, progressive licensing is a co-operation between the government and pharma to facilitate quicker market access to a smaller population before long term safety data is collected. (4)

## ..Perspective on Pharmaceutical Industry".....continued from pg 25

### The Future: Running twice as fast?

While innovators may have found efficient ways to deal with developmental, safety, and legal hurdles for the time being, cost containment strategies may need to be enforced again by policy makers.

For example, the US and Europe are currently developing guidelines for "biosimilars", which could hurt the profits of these of these expensive products. At the same time, generics will continue to accrue successful therapies and reap large benefits while

investing a fraction in research. However, because the industry is worth an estimated \$401 (2005 USD) per capita per year, it is my prediction it will become more efficient again, and the red queen's race will continue.

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## Moda-Fill my Brain

By Natalie Holden  
Memorial University of  
Newfoundland



It is midnight on the eve of a big test. You've covered the material, but some things just won't stick. No matter how many times you review the lines of therapy for disease X, somewhere down that list, the meanings get lost in clumsy medical jargon. Anxiety floods your thoughts. Your brain is sporadically fizzling to make sense of the material. "After all this studying, why don't I know this?" you ask yourself. "Is my brain working at full speed? How in the world will I know enough to pass the PEBCs, let alone become a pharmacist?"

Like the athlete who is tempted by performance enhancing substances, it is easy to be seduced by the idea of academic doping if it can lead to a higher GPA. The desire to improve one's intellectual

performance is a recurring theme in popular culture. In the lyrics of Matthew Goode's "Hello Time Bomb", he attributes his good grades to nonclinical Ritalin use. Limitless, a 2011 movie starring Bradley Cooper, tells the story of a person who uses illicit substances to gain access to the full capacity of his brain. By enhancing his cognitive abilities, he improves all aspects of his life. Even in cell phone marketing, the smart phone is vastly superior to non-smart phones. We are constantly receiving the message that smarter is better.

It is from this ongoing pursuit of self-improvement that the concept of cognitive enhancement has come into light. "Smart drugs", "nootropics", or cognitive enhancement pharmaceuticals have become a hot topic amongst researchers. Studies are focused on the use of psychoactive drugs for the purpose of cognitive enhancement in otherwise neurologically healthy people (Lanni et al., 2008). However, it is the student population that might be even more intrigued by these alleged smart drugs. An editorial published in the *Canadian Medical Association Journal*

continued on page 27

## ...Modafinil my Brain Continued from page 26

(CMAJ) in September 2011, draws attention to the increasing use of stimulants for the purpose of boosting GPAs in Canadian University Students.

The Canadian Centre on Substance Abuse (CCSA) estimates that non-medical use of stimulants is relatively low. Less than 2 percent of Canadian university students reported use of methamphetamines in the previous year (CCSA, 2010). However, other studies estimate that the prevalence of non-medical use of stimulants by college age students ranges from 5 percent to 35 percent (Wilens et al., 2008). Health Canada reports that 26 percent of respondents aged 15 years and older indicated that they had used drugs, including stimulants, in the past year (Health Canada, 2010). South of the border, an American university study issued surveys and conducted 175 in-depth interviews to uncover student perceptions and prevalence of illegal stimulant use. The results showed that 34 percent of these students had used stimulants at least once for academic purposes. As well, nearly 85 percent of these students claimed that access to these medications was easy (DeSantis et al., 2008). These numbers are not insignificant. Clearly, there is some level of drug use for grade boosting in the healthy student population.

In recent years, the demand for cognitive enhancements has been healthily kept afloat by the aging baby boomers and the need for treatments for dementia and other cognitive impairments. However, with the increasing use of cognitive enhancers in the academic world, a new market is beginning to emerge (Cakic, 2009). This begs the question: is there significant research to support the media hype? Or, is this a serendipitous discovery that will only boost profit-shares for big pharma?

The research in smart drugs is controversial. When it comes to memory, there is conflicting information. Donepezil, normally used in the treatment of Alzheimer's disease, improved cognitive performance

in a small trial with healthy young subjects (Yesavage et al., 2002). Conversely, another trial using donepezil in healthy elderly subjects, reported that the donepezil group showed impairment in speed, attention and short-term memory (Wezenberg et al., 2005).

Originally used as military "go-pills" and narcolepsy treatment, modafinil's off-label uses have become a source of interest (Lanni et al., 2008). In a double-blinded randomized crossover study, sleep-deprived emergency physicians were the subjects. The results showed that modafinil increases cognitive functions, such as sustained attention, cognitive control, and working memory. Also, they reported that it subjectively improved participants' ability to attend post-night-shift didactic sessions (Gill et al., 2006). Another study conducted in healthy student volunteers suggests that the effect of modafinil on attention tasks is related with the individual baseline IQ. Modafinil seemed to improve performance in attention-requiring tasks in the "lower" IQ group, compared to the higher IQ (Randell et al., 2005). Ethical implications need to be considered such as how 'smart drugs' will this affect students competing for seats in elite programs or scholarships? If professional athletes are subject to stringent rules about doping, can students also be affected? After all, couldn't this be viewed as another form of academic misconduct? This opens up a whole new category of drugs for pharmacists to be aware of in practice.

This is not a simple relationship-effect model. Memory, attention, and creativity are complex human functions that are affected by any number of things. Drugs used for enhancement can be an uncomfortable topic because it seeps into the drug abuse territory. However, patients commonly approach the pharmacy counter with questions about things they see in the media. Even if the research is up in the air, the side effects of these medications are well documented. If we know people will be trying these drugs for non-medical purposes, we must do our best to educate our patients, as well as the public.

## Winter 2012 CAPSIL update from CSHP

National Student Delegate  
Megan Riordon  
Dalhousie University



**Check out CSHP's STUDENT CORNER for info on all of the following:**

- Learn about pharmacy practice in a hospital
  - Getting the most out of your education
    - Getting a job in a hospital
    - Getting involved with CSHP
      - Making connections
  - Students in Hospital Pharmacy
- Awards for students and new practitioners
  - Links to useful sites/information

### **CSHP 2015 Video Competition Winner Selected!**

- Check out the winning video to be posted on the website

### **Student Membership**

- Renew your membership online to keep all your student benefits in the upcoming year  
LIKE us on Facebook!
- Check out our page for news about student opportunities, conferences, and profile highlights about CSHP members, branches, and hospital residents  
CAPSI-CSHP Student Award
- Congratulations to this year's winner Sarah Hasenbank from the University of Alberta  
PPC 2012 in Toronto
- Students and residents are more than welcome to attend PPC in Toronto the first weekend in February. The PSN Session at PPC will be about the application of pharmacokinetics and antibiotics in specific patient cases



**Canadian Society of Hospital Pharmacists**  
**Société canadienne des pharmaciens d'hôpitaux**



## Quebec Students Petition for Healthy Food Initiative

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Written by: A group of pharmacy students from the University of Montreal



As future pharmacists in an overburdened health care system, it is imperative for us to be innovators in the field of public health.

Obesity is an increasing problem in North America. More frequent in underprivileged and low-income regions, its prevalence continues to increase at an alarming rate, and with that, so has a plethora of obesity-related diseases.

As part of the Community Service course offered by the Faculty of Pharmacy at the Université de Montréal, which brings together students spanning from first year to third year, students are invited to develop a project which will have a significant impact on the health of our community. Our group has decided to work on the problem of obesity in a public health context. The high cost of healthy food relative to the low cost of food with less nutritional value is a contributing factor to the problem of obesity in our society. Low-income families have a smaller purchasing power for healthier food and therefore food with low

nutritional value is significantly more accessible. In order to raise the population's and politicians' awareness of this problem, we have decided to circulate a petition targeting the implementation of a tax on food with low-nutritional value such as chips, candies and soft drinks. The revenue generated from this tax would be reinvested in obesity prevention programs or food banks thereby increasing the accessibility of healthy fresh food.

By creating this petition, we are also trying to increase the population's and politicians' awareness of this problem and encourage them to take a position. We encourage you to read our petition and, if you believe in our cause, to sign it. This petition is open to all, even non-residents of Quebec. Think about it! Talk to your fellow future healthcare professionals and act on it!

The petition can be consulted and signed on the website of the Assemblée Nationale du Québec: <https://www.assnat.qc.ca/en/exprimez-votre-opinion/petition/Petition-2471/index.html>

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Editor's note: If you would like more information about this initiative, please contact [capsil@capsil.ca](mailto:capsil@capsil.ca) to contact the author of this article.

## Des étudiants québécois manifestent pour une alimentation saine

Écrit par: un groupe d'étudiant en pharmacie à l'Université de Montréal



**En** tant que futurs pharmaciens dans un système de santé déjà surchargé, il est impératif pour nous d'être des pionniers de l'innovation dans le domaine de la santé publique.

L'obésité est une des problématiques de santé publique des plus préoccupantes en Amérique du Nord. Présente plus particulièrement en zone défavorisée, sa prévalence ne cesse d'augmenter au Canada, engendrant une multitude de conséquences sur le plan de la santé de la population et de la gestion des maladies chroniques.

Dans le cadre du cours de Services à la communauté de la Faculté de pharmacie de l'Université de Montréal, les étudiants de première à troisième année sont invités à réaliser, en équipes, un projet d'importance, ayant pour but de rendre service à notre communauté. Ainsi, notre équipe s'est penchée sur la problématique de l'obésité. Comme nous le savons, l'alimentation est un des facteurs déterminant de l'obésité. Puisque les aliments sains sont généralement plus dispendieux, il

peut être difficile, pour certaines tranches de la population, de s'en procurer. Pour sensibiliser la population et les instances politiques à cette problématique, nous faisons présentement circuler une pétition visant l'implantation d'une taxe sur les produits à faible valeur nutritive tels les croustilles, les sucreries et les boissons sucrées. Les revenus ainsi générés pourraient être réinvestis, par exemple, dans des programmes de prévention de l'obésité ou dans des banques alimentaires facilitant l'accessibilité à des aliments sains et frais.

En créant cette pétition, nous espérons également sensibiliser la population et les politiciens sur cette problématique et les encourager à prendre position. Par conséquent, nous vous encourageons à lire notre pétition et si vous croyez en notre cause, nous apprécierions que vous manifestiez votre appui en signant cette pétition. Cette pétition est ouverte à tous et ce, même si vous n'êtes pas résident du Québec. Pensez-y! Parlez-en à vos futurs collègues professionnels de la santé et agissez maintenant!

La pétition peut être consultée et signée sur le site de l'Assemblée Nationale du Québec au : <https://www.assnat.qc.ca/fr/exprimez-votre-opinion/petition/Petition-2471/index.html>

Si vous désirez plus d'informations sur ce sujet, veuillez communiquer avec [capsil@capsil.ca](mailto:capsil@capsil.ca) pour contacter l'auteur de cet article.

# Competition Winners



## CAPSI Compounding Competition / Le concours de formes pharmaceutiques de l'ACEIP

*Sponsored by Medisca*



*1st: Memorial University*

Ian Aucoin  
Tim Buchanan  
Chris Grant  
Jamie Grandy

*3rd: Dalhousie University*

Josh Curran  
Ben Joudrie  
Megan Rideout  
Natalie Duke

*2nd: University of Alberta*

Joey Ton  
Basel Alsaadi  
Andrew Noh  
Peter (Ran) Young

*4th: University of British Columbia*

Danny Wong  
Mark Ho  
Yvonne Huang  
Michael Wong

## CAPSI Patient Interview Competition / Compétition de conseil au patient d'ACEIP

*Sponsored by CAPSI National*



1st: Marko Tomas - University of Toronto

2nd: Gina Hummel - University of Waterloo

3rd: Guillaume Brosseau - Université de Montréal

4th: Karen Ens - University of Manitoba

## CAPSI Over-the-counter (OTC) Competition / La compétition de médicaments de vente libre de l'ACEIP

*Sponsored by Wyeth and CAPSI National*



1st: Justine Manulak - University of Manitoba

2nd: Kim Shaw - University of British Columbia

3rd: Mandy Paziuk - University of Saskatchewan

4th: Phillipe Ngo - Université de Montréal

## CAPSI Student Literary Challenge / Le défi littéraire étudiant de l'ACEIP

*Sponsored by CAPSI National and CPJ*



1st: Emily Li - University of Alberta

2nd: Francois-Xavier Houde - Université de Montréal

3rd: Jacqueline West - Dalhousie University

4th: Isabelle Gagnon - Université de Laval

5th: Katrina Grubbs - University of Toronto

## Changes to the Canada Health Transfer: What does it mean for you?

By: Chelsea Barr  
University of Waterloo



**You** may have heard the controversial news about the announcement made by Finance Minister Jim Flaherty in December regarding a limit to the future growth rate of cash transfer payments to provincial and territorial governments for health care, but what does it really mean?

In 2003, under the Liberal government of Jean Chrétien, Provincial Premiers and Territorial Leaders in Canada reached an agreement with an action plan for change to sustain public health care for Canadians<sup>(1)</sup>. This agreement was named the First Ministers' Accord on Health Care Renewal (the "Health Accord") and addressed several key issues in health care; including issues such as prescription drug coverage, home care, and wait times. Implemented in 2004 as a 10-year plan, the funding agreements set forth by this accord are set to expire in 2014.

The Canada Health Transfer is a payment made to the provinces from the federal government to support the principles of the Canada Health Act: universality; comprehensiveness; portability; accessibility;

and, public administration.<sup>(2)</sup> The federal government also provides "equalization payments" to provinces that are lacking in financial resources in order to ensure adequate health care. The legislation set forth in the Health Accord, were set to increase payments by 6% per year to accommodate for inflation, a growing and aging population, and increased health care costs.

What Mr. Flaherty announced in December was that "cash transfers will grow by 6% through fiscal 2016 and then be pegged to a "three-year moving average of nominal gross domestic product [GDP]," with a minimum 3% increase, through 2024".<sup>(3)</sup> Future Health Transfers would also be made on a per capita basis, leading to less populated provinces receiving lower levels of funding than others. While provincial health care costs are projected to increase substantially in the future, federal funding will be well below what is required to maintain current health care levels.

This will cause provinces to fall deeper in debt, by some projections increasing from the current amount of 20% GDP to 125% GDP by 2050-51.<sup>(3)</sup> Provincial governments may be forced to cut many health care programs and look for other sources of revenue.

What was most alarming to provincial governments is the announcement made by Mr. Flaherty and now the nation's Premiers are looking for a new solution to ensure that Canadians receive adequate health care. This has led to the "Health Care Innovation Working

Group", a working group co-chaired by the Prince Edward Island Premier Robert Ghiz and Saskatchewan Premier Brad Wall. Over the next 6 months, this group will focus on scopes of practice, human resource management, and clinical practice guidelines. The group affirms they are working on solutions to "assess the fiscal impact of the federal government's decisions" and "work together to innovate and provide care for seniors and all Canadians".<sup>(3)</sup>

The current situation provides an excellent reason for pharmacists to lobby the government and prove that pharmacist reimbursement for cognitive services and direct patient care can provide cost savings to the health care system. As the decisions made by both the federal and provincial governments will impact our practice in the future, pharmacy students should be especially involved in ensuring that we can continue to provide pharmaceutical care as the population grows and ages. The Canadian Pharmacists Association is a member of the G4 association of health care advocacy groups, and is working to influence health care policy as the federal government negotiates the 2014 renewal of federal health transfer funding with the provinces. I urge everyone who is concerned about the future of health care to stay informed about government funding over the coming months.

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*For more information on government relations and health care association advocacy in Canada, visit the Health Action Lobby (HEAL) group website <http://www.healthactionlobby.ca/>*

1. <http://www.hc-sc.gc.ca/hcs-sss/delivery-prestation/fptcollab/2003accord/nr-cp-eng.php>
2. <http://www.fin.gc.ca/fedprov/cht-eng.asp>
3. <http://www.cmaj.ca/site/earlyreleases/4theRecord>



## Pharmacy Practice in Canada

By: Leila Clayton, University of Saskatchewan



### Canada's Health

Care System, also known as Medicare, is a nationally funded universal health insurance. This system comprises of ten provincial and three territorial governing insurances, which provides patients with access to hospitals and physician services. All services are prepaid through taxes and covered by Medicare (1). Medications outside of the hospital are primarily paid for by private insurance, either purchased by the patient or provided by an employer. Government programs pay for a large proportion of medication costs for elderly, children and low-income families. Healthcare costs in Canada are high, reaching \$191.6 billion in 2010, with drugs dispensed by community pharmacies ranking as the second highest expense (2). Pharmacists, the medication experts, are involved in health promotion have an important role in ensuring proper medication treatment, including both proper selection and use of medication, are crucial to decreasing Canada's healthcare costs. Canadian pharmacists are expanding their role in patient care by gaining new responsibilities and broadening their skills; for example, pharmacists in some provinces can now independently prescribe medication for minor ailments, as well as give vaccinations.

As of January 1st, 2011 there was 33,734 practicing pharmacists in Canada (3). Of those, 21,285 work in 8,637 community pharmacies and 4,962 work in hospitals. Pharmacists also work in the pharmaceutical industry, governments, colleges and universities and associations (3). There were 91.1 pharmacists per 100,000 people in Canada in 2010 (4).

### Community Pharmacists

Most pharmacists work in community pharma-

cies, with approximately 60.8% of pharmacies working in chain, banner, or franchise, 19.6% in grocery or mass merchandiser, and 19.6% worked in independent pharmacies in 2010 (2). Community pharmacists have traditionally been involved in dispensing medications, educating patients and other health care professionals on medications, and working with other healthcare professional to monitoring drug therapy and resolve drug-related problems (5). Many changes are occurring in Canada, thereby expanding the role of the community pharmacist. Pharmacists are becoming more involved with chronic disease management, direct patient care for minor illnesses, direct patient interventions, screening, promotion of healthy lifestyles, immunizations, and home care. Community pharmacists are now running clinics in their pharmacies on smoking cessation, weight management, diabetes management, travel medication, and many other topics. Pharmacists in each province are working on changing legislation, education and training of pharmacists and technicians, shifting work load from pharmacists to technicians, changing reimbursement models, gaining access to patient diagnosis and lab data and other health records, and adding private counseling areas to pharmacies (6). Provinces are progressing differently to expand and renew the pharmacy profession nationwide and to implement changes to patient care. They are working and learning from each other by using the BluePrint for Pharmacy model. The average wage for community pharmacists in 2011 was \$47.90 per hour (2).

### Hospital Pharmacists

Pharmacists in hospitals manage medication therapy for inpatients in collaboration with other health professionals. Pharmacists use evidence-based resources to support their decision for individualized patient care. Hospital pharmacists are also involved in many inpatient care programs such as, renal/dialysis, hematology/anticoagulation, emergency medication, transplantation, and infectious disease/AIDS. Common outpatient programs include geriatrics, transplantation, adult critical care, cardiovascular/lipid, pediatric/neonatal critical care, and general medicine (7).

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The majority of hospital pharmacies use an integrated drug distribution and clinical practice model. In this model most hospital pharmacists have a balance of clinical practice and drug distribution in a typical day or they rotate between the two types of shifts. Hospital pharmacists can now prescribe independently or dependently (often involving the delegation of a physician prescribing rights to a pharmacist when working together in a healthcare team). Pharmacist prescribing is often for lab tests, dosage adjustments, and occasionally new therapy. The extent of pharmacist prescribing varies between hospitals. Most Canadian hospital pharmacies have a centralized unit dose system, meaning all unit dose medications are dispensed from one location. Pharmacists are also involved in teaching, research and the preparation of sterile and hazardous medications. Hospital pharmacist wages ranged from \$67,611 to \$108,293 cdn per year in 2009/2010.

### Other types of Pharmacists

Approximately 3,477 pharmacists in Canada practice in other settings or maintain their license even though they are not involved with direct patient care (3). Some examples of other settings are academics, professional associations, federal government employment, and provincial or territorial government employment, nationally or provincially-based not for profit organizations, Canadian Forces and benefits/insurance companies (8). Pharmacists also work in the pharmaceutical industry becoming involved in marketing, regulatory affairs, medication information, medication research, and medication development. National chain drug store corporate offices, consultancy such as in long term care facilities, and working in family health teams with physicians, nurses and other professionals optimizing patient care are other career opportunities for pharmacists (5).

### Pharmacy Education

There are 10 pharmacy schools across Canada. Graduates must complete one year of general science and 4 years of pharmacy. Some universities are now moving to a Pharm D program, which entails 2 years of general science and 4 years of pharmacy. All students must also pass a Pharmacy Examining Board of

Canada (PEBC) Qualifying Exam in order to become a licensed pharmacist (9). This exam includes both written knowledge based questions, practical application, and law based questions. The pharmacist must meet provincial or territorial regulatory standards that may include additional practice hours or an exam on the government practices in that region (9). Most pharmacists have a baccalaureate degree (approximately 92.0%) however the number of pharmacists with a master's or a PharmD is increasing (4).

### Demographics

Approximately 59.7% of pharmacists were female in 2010 and this number has been increasing yearly. The average age of pharmacists was 43.4 (2010). Most pharmacists work for a single employer (approximately 80.4%) and an urban setting (approximately 87.4%) (4).

### Conclusion

Pharmacy is a prominent profession in Canada with a variety of professional opportunities that are expanding each year. Pharmacists are the most accessible health care profession in Canada, yet their services and knowledge are underutilized. Canadian pharmacists are working hard to expand the role and responsibilities of pharmacists in all clinical settings.

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### Resources

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## My Summer Exchange Experience in the Tropics

By: Nikita The  
University of Toronto

I decided to do research at HMF-ITB in Indonesia for my summer student experience. My host institution, Institut Teknologi Bandung (ITB), offers several research positions each year. There were eight of us in July, so I got to meet exchange students from other countries: Slovenia, Serbia and Spain. There were also Malaysian students completing their undergraduate at the Pharmacy department, so it was truly a multicultural experience. It was great to exchange experiences and tidbits about how pharmacy and pharmacy school are where each of us came from. As one of the Serbian students said, it was ‘the beginning of a huge friendship.’

### Research project

I was placed in my area of choice, biotechnology, with an exchange student from Slovenia. Our project focused on the in vitro production of the anti-malarial agent artemisinin. During the series of experiments, techniques learned in the microbiology and biochemistry laboratory courses became very useful. It was a great opportunity to refresh on plasmid isolation, enzyme extraction, sonication and SDS-PAGE techniques! We also have regular meetings with the professor to analyze our results and ensure that we stay on schedule. At the end of the project, we presented our results to other students and professors.

The best part of the research project, however, was the opportunity to plan our project, think about what questions to answer next and decide on what experiments to conduct to arrive at the answer. I think it was a great way to have some research exposure without long-term commitments.

### Work environment

The ITB campus is very pretty! The buildings are old but well-kept. I was told that they are remnants from the Dutch colonization era. Pharmacy has its own building. Although there was no air-conditioning in most of the laboratories, for the most part large windows and a view to the university’s own botanical garden makes up for it. Some days, though, it really does get very hot with the lab coat on. Lab facilities were comparable to laboratories here, except they use less disposable items.

Western influence is quite strong in Indonesia. However, modesty is still very important. Shorts and sleeveless tops are not allowed on campus. Many of the students speak English, though some more fluent than others. The faculty members also speak English well, so we had no problems in that score. Ordering meals or asking for directions outside of campus may be challenging though.



*First Visit to the ITB*

### After-work and weekend activities

I think this was everyone’s favourite part of the SEP!! The Indonesian Pharmacy students would take turns to come by after work hours, show us around town and have dinner with us for the first week. They are so friendly! They also planned our weekend excursions to a nearby volcano crater, tea fields, hot springs, a safari park, cultural festivals, botanical gardens and the island Karimun Jawa. Some of us also went on a separate trip to Jogjakarta and Bali.



# Student Exchange



*Weekend trip to Bogor Botanical Gardens*

## **Accommodation, transportation and costs**

The Indonesian SEO kindly arranged for our housing. We were all placed in the same housing facility, 20 minutes away from campus. It is located in a cooler part of the city, so no air conditioning needed. It was challenging at first to get around with their version of public transit, the 'angkot.'

Luckily, people were very friendly with us. In the mornings, one of the policemen would help us flag the right angkot for our trip to school.

I paid 140 EUR for 4 weeks' accommodation, 150 EUR for optional activity fees (the trips outlined above), and about 300 CAD on meals and groceries.



*Final Presentation day with my lab partner and my supervisor*

*For more information about IPSF or the SEP program, please contact [ipsf@capsi.ca](mailto:ipsf@capsi.ca) or [seo@capsi.ca](mailto:seo@capsi.ca)*





## International Pharmacy Experience in Turkey

By; Amanda Stevens  
University of Saskatchewan

For the entire month of July, 2011, I was in the wonderful country of Turkey. My reasons for choosing Turkey were numerous and varied, including the obvious desire to experience a country and culture different from my own. During my time there I had the opportunity to meet amazing people of diverse cultural backgrounds, discover unique landscapes, taste new foods, and of course learn more about pharmacy and health care.

Through the IPSF student exchange program I learned a great deal not only about the profession of pharmacy and pharmaceuticals, but also about myself. Before departing Canada I had thought about what I hoped to accomplish during my student exchange and came up with some goals, both educational and personal. My educational goals for this trip were simple: compare pharmacy in Turkey with pharmacy back at home, and learn something I can apply in Canada. I was placed at a very modern and chic pharmacy in the city of Izmir where the amazing staff ensured the atmosphere of the pharmacy was productive yet fun and comfortable. Though I had the opportunity to visit many other traditional pharmacies throughout the city, this unique pharmacy appears to be at the forefront of a new trend that incorporates style and technology into practice.

Red Eczane 'pharmacy' signs were a common site throughout Turkey. A street near Kadifekale, an ancient castle, actually had an entire city block lined with nothing but pharmacies! I also came across several unique pharmacies specializing in specific areas of pharmaceuticals. For example, a pharmacist focused on dermatology and cosmetic compounding created personalized products for patients based on their individual needs. Although the idea of specialized pharma-

cies was relatively new to me, the majority of prescription and over-the-counter drugs were familiar. Most labels were written in Turkish, but because the Turkish language simply spells words as they sound I was able to read the drug names. For example, antibiyotik is antibiotic, amoksilin is amoxicillin, and azitromisin is azithromycin. Even though the language barrier was frustrating at times, especially since none of the pharmacy staff was fluent in English, my exchange was still very educational.



*Eczane 'pharmacy' sign*

There were several technological aspects of pharmacy practice that I think would be beneficial to adopt in other countries such as Canada. For example, as a way to track both prescription and over-the-counter medication at each stage from production to dispensation, Turkey uses a two-dimensional barcode unique to each individual package. This barcode is scanned before dispensing in the pharmacy to ensure the product is not counterfeit, expired, or recalled. Implementing this sort of system in other countries could help ensure safe, quality products are dispensed and sold to patients.

As mentioned before, the pharmacy I was placed at was very trendy and progressive. A key feature of this pharmacy was the patient-facing screen placed above each computer in the dispensary, which allowed patients to see what the pharmacy staff was entering on the computer. This system could easily be adapted for more effective patient educating and counselling. As these examples show, the use of technology in the Turkish pharmaceutical industry was quite evident during my time there.

# Student Exchange

In addition to the wealth of education I gained during my exchange, I also met people from all over the world and made a lot of amazing memories. Living in a student residence at a local university I met other exchange program students from numerous countries including Algeria, Australia, Brazil, Czechoslovakia, Egypt, France, Hungary, Macedonia, Poland, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, Spain, Switzerland, Tunisia, United Kingdom, and of course Turkey. Relaxing on beaches and swimming in the Mediterranean sea, soaring over the unique terrain of Cappadocia in a hot air balloon, climbing the limestone travertines at Pamukkale, and staying in a twenty person hostel room while touring the great city

of Istanbul, are unique experiences that have given me a new perspective on people, culture and the world in general.

My IPSF student exchange to Turkey was absolutely incredible! I have met friends from around the world that have changed my life for the better, experienced personal growth, and had a unique look at pharmacy. I would highly recommend the IPSF student exchange program, especially to Turkey, to anyone interested in combining traveling and learning!



*Group in front of Ankara Mosque*



*Fish Doctor Pedicure*



*Izmir, Turkey*



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