CAPhO ACPhO




The Canadian Association of Pharmacy in Oncology presents the
National Oncology Pharmacy Symposium 2013

MANY PATHS, MANY JOURNEYS

L'Association canadienne de pharmacie en oncologie présente le
Symposium national de pharmacie en oncologie 2013

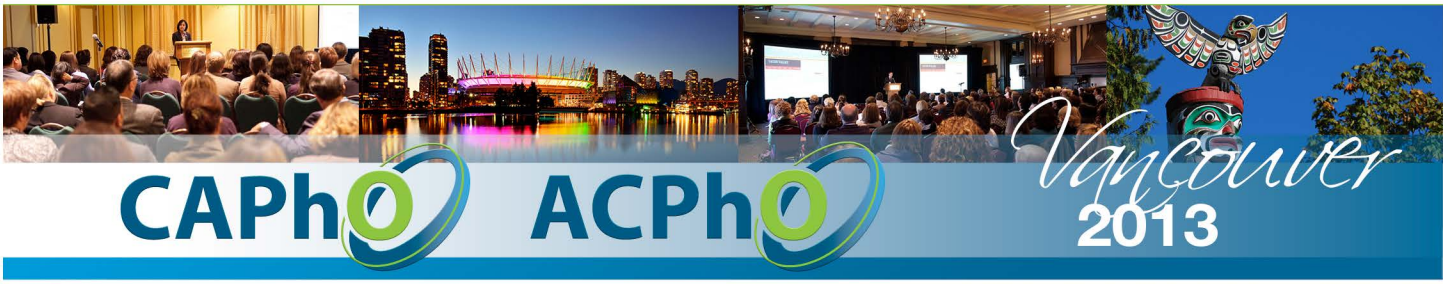
UNE DIVERSITÉ DE CHEMINS ET DE PARCOURS

November 14-17 | Du 14 au 17 novembre
Hyatt Regency, Vancouver, British Columbia

Vancouver
2013

Onsite Program
Programme

www.capho.org **www.acpho.org**



NOPS 2013 Sponsors

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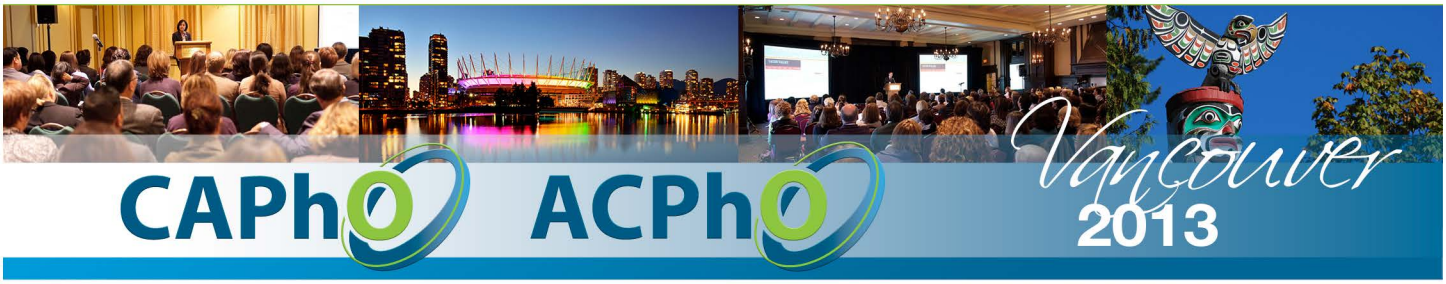
Lundbeck in oncology

We believe in being open to new knowledge. But even more, our sense of humanity defines how we reach out to another human being and the world around us.

Lundbeck en oncologie

Nous croyons en l'ouverture d'esprit face aux nouvelles connaissances. En outre, ce qui nous définit le plus est notre sens de l'humanité et la façon dont nous tendons la main à ceux qui nous entourent.



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Hospira

Satellite Symposium

Date:
Friday November 15th , 2013

Time:
2:30-4:00 PM

Location:
Hyatt Regency Vancouver

NOPS 2013

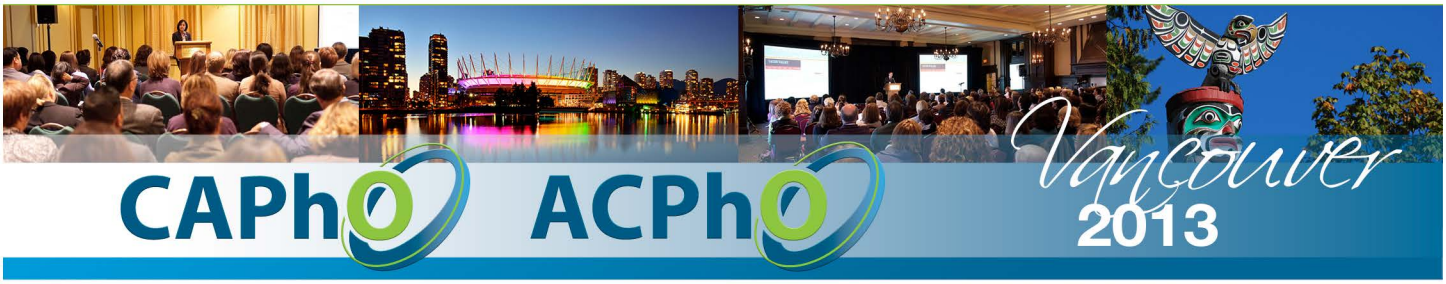
Title: New Era In Biologics: Biosimilars

Introduction to Biosimilars in Canada –
Production and Control of Biosimilars versus Innovators.
George Dranitsaris, B. Pharm., PhD

Impact of Biosimilars on Clinical Practice
Canada Oncologist Perspective

Emergence of Biosilimar Medicine - The European Experience
European Oncologist

Hospira
Advancing Wellness™



Welcome Message from the CAPhO President

On behalf of the Executive Committee of the Canadian Association of Pharmacy in Oncology (CAPhO), welcome to Vancouver and NOPS 2013!

This year's theme is *"Many Paths, Many Journeys."* I know that many of you will embark on your own journey to travel to Vancouver to enjoy this outstanding collection of plenaries, breakout sessions, posters and symposia. Thank you for making the journey; I sincerely hope NOPS 2013 will reveal new paths for you to follow in the field of oncology pharmacy.

Part of any journey is the people you meet along the way. Whether you are a first timer or an old timer, take advantage of the networking opportunities provided in the program. Putting a face to a name is priceless in today's online world so we have ensured that time is slotted in for a nice cup of coffee and a chat with colleagues. On that note, our AGM is scheduled for Saturday at noon, the Townhall for Sunday at 8:30am, and the Executive will be at the CAPhO booth located in the Exhibition Area to discuss any Association questions you may have, or if you just want to say hello.

I also encourage you to attend the two social events on Saturday: the Exhibit and Poster Viewing Reception followed by a delicious West Coast dinner with entertainment at the Vancouver Art Gallery. The Art Gallery is one of Vancouver's most distinguished buildings and is the largest art museum in Western Canada. Before dinner, you will be able to enjoy a collection of art entitled *"Haida Traditions"* by Charles Edenshaw, a renowned Haida artist from the early 1900s. His collection reflects the long and arduous journey of the Haida people during this time: *"Working at the turn of the century, Edenshaw's life spanned a period of great hardship and tragedy for the Haida people, yet he found ways to adapt and produce outstanding work."* (Art Gallery website)

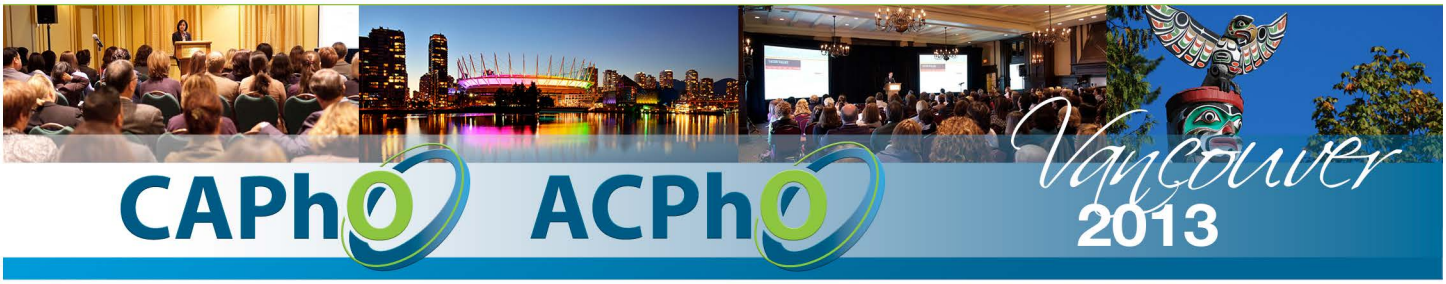
We would also like to thank our generous sponsors for their continued support of this important Symposium. We encourage you to take the time to visit the exhibits, as this is a great opportunity to learn about new services and products that may benefit your patients.

Lastly, I would like to thank Kimberly Kuik, Susan Walisser and the NOPS 2013 Planning Committee members who have planned an outstanding program.

On behalf of the CAPhO Executive, we hope you enjoy NOPS 2013!

Jennifer Jupp

CAPhO President



Mot de bienvenue de la présidente de l'ACPhO

Au nom du comité directeur de l'Association canadienne de pharmacie en oncologie (ACPhO), je vous souhaite la bienvenue à Vancouver et au Symposium national de pharmaco-oncologie (SNPO) 2013.

Cette année, l'événement a pour thème *Une diversité de chemins et de parcours.* Nombreux sont ceux parmi vous qui viendront de l'extérieur pour assister à l'extraordinaire variété de séances plénières, de d'ateliers, de présentations d'affiches et de colloques. Merci de faire ce voyage; j'espère de tout cœur que le SNPO 2013 vous ouvrira de nouvelles voies dans le domaine de la pharmacie oncologique.

Dans le cadre de ce parcours, vous ferez des rencontres. Que vous soyez un novice ou un habitué, les occasions de réseautage offertes par la programmation sont innombrables. Dans notre monde virtuel, le fait de pouvoir mettre un visage sur le nom de nos collègues est inestimable; nous avons donc prévu du temps pour des rencontres informelles. À ce propos, notre assemblée générale annuelle aura lieu le samedi à midi et la séance de discussion ouverte le dimanche à 8 h 30. Les membres de la direction se trouveront au stand de l'ACPhO situé dans l'aire des expositions si vous avez des questions sur l'association ou si vous souhaitez simplement les saluer.

Je vous encourage également à assister aux deux activités sociales du samedi : la réception d'exposition et de visionnement des affiches, suivie d'un délicieux souper-spectacle à la Galerie d'art de Vancouver. La Galerie d'art est l'un des édifices les plus prestigieux de Vancouver et le plus grand musée d'art de l'Ouest canadien. Avant le souper-spectacle, vous pourrez voir l'exposition « *Haida Traditions* » de Charles Edenshaw, célèbre artiste haïda des années 1900. Ses œuvres sont le reflet du parcours long et ardu des Haïdas au cours de cette période. « *La vie et l'œuvre d'Edenshaw illustrent la période de grandes épreuves et tragédies que les Haïdas ont traversée au tournant du siècle. L'artiste a tout de même réussi à adapter et à produire des œuvres exceptionnelles.* » (tiré du site web de la Galerie d'art de Vancouver)

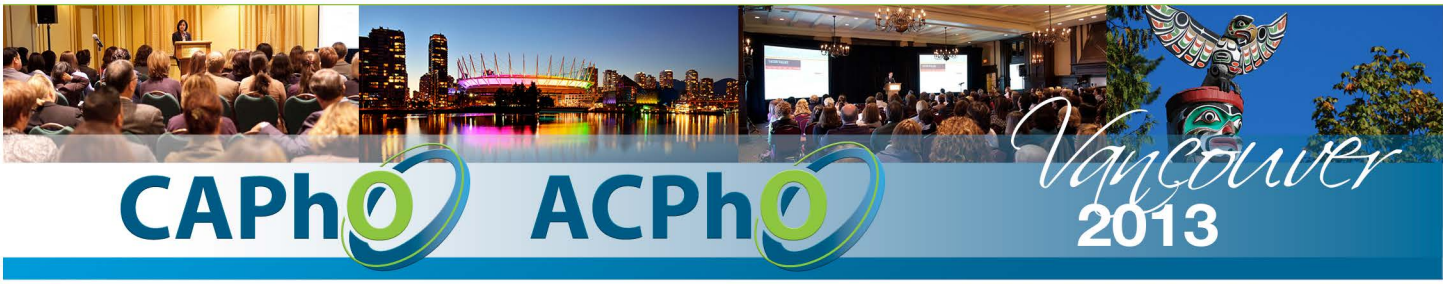
Prenez le temps de visiter les stands d'exposition : il s'agit d'une excellente occasion de connaître de nouveaux produits et services pouvant profiter à vos patients.

Pour terminer, j'aimerais remercier nos généreux commanditaires pour leur soutien continu à cet important symposium, ainsi que Kimberly Kuik, Susan Walisser et les membres du comité de la planification du SNPO 2013 pour leur contribution à cette programmation exceptionnelle.

Au nom de la direction de l'ACPhO, je vous souhaite un bon symposium!

Jennifer Jupp

Présidente de l'ACPhO



Welcome Message from the NOPS 2013 Co-Chairs

On behalf of the NOPS 2013 Planning Committee, we would like to welcome you to the premier oncology pharmacy education event in Canada. It has been our goal to provide you with an informative and engaging program of events, held in a world-class location. We hope you will agree that we have been successful on both counts.

NOPS 2013 provides something for everybody with a passion for oncology pharmacy practice. We chose the theme *"Many Paths, Many Journeys"* after reflecting on what makes our practice unique. It applies to everyone's perspective – cancer is a collection of diseases with a variable course of action; as health care providers we have developed a multitude of strategies to influence that course of action and, of course, each patient's response to their diagnosis and their preference for the care that they will seek will be very different.

We are very pleased to have a diverse group of accomplished speakers who will share with us their insights into a variety of oncology pharmacy practice issues, from the management of workplace ergonomics to the approach to chemotherapy in the elderly. We are very grateful for the willingness of all of our speakers to contribute to the success of our symposium.

We also want to thank our industry partners for their support and for the excellent educational content that they bring to the NOPS experience.

The City of Vancouver is a Canadian jewel. The stunning scenery, the proximity to diverse recreational venues, the multiculturalism experienced in the restaurants and by walking down the street, and the opportunities for retail therapy are limitless. The theme of Many Paths, Many Journeys is very applicable to a visit to Vancouver. There is something for everyone to explore and enjoy. We hope that you take full advantage of everything Vancouver has to offer while you are with us.

NOPS could not continue to be a success without the support of the CAPhO Executive Committee and the hard work of the Planning Committee members. All of their creativity and dedication is very much appreciated.

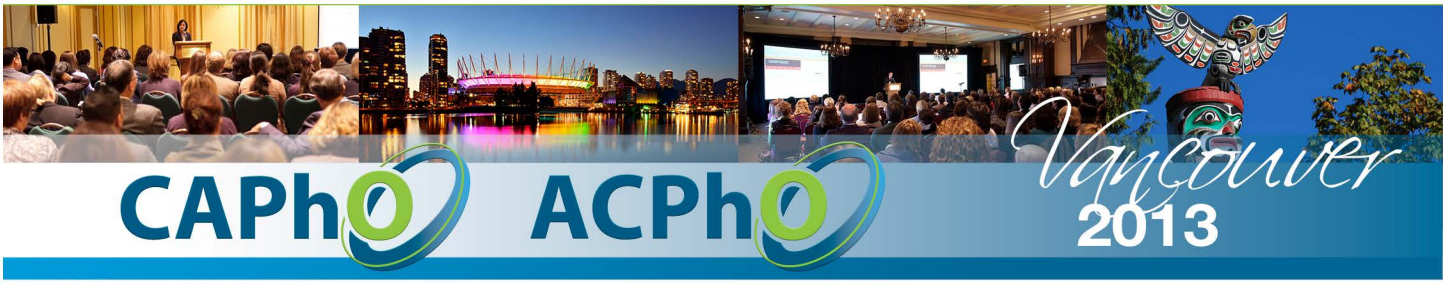
NOPS is our annual opportunity to come together to share our successes and our challenges, to learn from and be inspired by one another and to have fun while we are doing it. We truly hope that you thoroughly enjoy your journey to Vancouver and the path that you decide to take while here and beyond.

Kimberly Kuik

NOPS 2013 Co-Chair

Susan Walisser

NOPS 2013 Co-Chair



Mot de bienvenue des coprésidentes du SNPO 2013

Au nom du comité de la planification du SNPO 2013, nous aimerions vous souhaiter la bienvenue au plus important événement éducatif sur la pharmaco-oncologie au Canada. Notre objectif est de vous offrir une programmation à la fois informative et intéressante dans un lieu de renommée internationale. Nous espérons avoir réussi.

Le SNPO a quelque chose à offrir à tous les passionnés de la pharmaco-oncologie. Nous avons choisi le thème *Une diversité de chemins et de parcours* pour illustrer le caractère unique de notre pratique. Ce thème s'applique à toutes les optiques – le cancer regroupe différentes maladies ayant une progression différente; en tant que fournisseurs de soins de santé, nous avons établi une multitude de stratégies de prise en charge et bien entendu, la réaction de chaque patient au diagnostic et les choix de soins varient.

C'est une joie d'avoir parmi nous un groupe diversifié de conférenciers accomplis qui partageront leurs connaissances sur différentes questions liées à la pratique de la pharmaco-oncologie, de la gestion de l'ergonomie en milieu de travail à l'approche de la chimiothérapie chez les personnes âgées. Nous sommes très reconnaissants à nos conférenciers d'accepter de contribuer à la réussite de notre symposium.

Nous aimerions remercier nos partenaires sectoriels pour leur soutien et leur excellent apport à l'expérience du SNPO.

La ville de Vancouver est un véritable bijou. Le magnifique paysage, la proximité des infrastructures de loisirs, la gastronomie multiculturelle et les occasions de magasinage sont innombrables. Le thème Une diversité de chemins et de parcours ne saurait mieux coller : il y en a pour tous les goûts à Vancouver. Nous espérons que vous profiterez pleinement de tout ce que cette ville a à vous offrir.

La réussite du SNPO année après année est étroitement liée au soutien du comité directeur de l'ACPhO et au travail acharné des membres du comité de la planification. La créativité et le dévouement de ces derniers sont très appréciés.

Le SNPO est l'occasion de se réunir chaque année pour partager nos réussites et nos épreuves, apprendre de nos homologues et s'amuser tout à la fois. Nous espérons de tout cœur que vous aimerez votre séjour à Vancouver et que le chemin que vous emprunterez là-bas et au-delà sera agréable.

Kimberly Kuik

Coprésidente du SNPO 2013

Susan Walisser

Coprésidente du SNPO 2013

National Oncology Pharmacy Day
Journée nationale de la pharmacie oncologique

The Mayor of the City of Vancouver, Gregor Robertson, has declared Saturday, November 16, 2013 as the ***"National Oncology Pharmacy Day"*** in honour of the National Oncology Pharmacy Symposium 2013.

Le maire de Vancouver, Gregor Robertson, a déclaré le samedi 16 novembre 2013 ***Journée nationale de la pharmacie oncologique*** en l'honneur du Symposium national de pharmacie en oncologie (SNPO) 2013.

Office of the Mayor
CITY OF VANCOUVER
BRITISH COLUMBIA

Proclamation

"NATIONAL ONCOLOGY PHARMACY DAY"

WHEREAS Oncology Pharmacy is a specialized area of pharmacy practice, focusing on the support of cancer patients as they undergo chemotherapy treatments;

AND WHEREAS This year the annual conference of the Canadian Association of Pharmacy in Oncology is holding their National Oncology Pharmacy Symposium in Vancouver on November 16, 2013;

AND WHEREAS The theme of this year's conference is "*Many Paths, Many Journeys*";

AND WHEREAS Oncology pharmacists and pharmacy assistants/ technicians are committed to providing safe and effective oncology care;

AND WHEREAS Oncology pharmacy practitioners demonstrate excellence in patient care, education, and research, and are committed to supporting patients as they travel their individual cancer journey:

NOW, THEREFORE, I, Gregor Robertson, Mayor of the City of Vancouver, DO HEREBY PROCLAIM Saturday, November 16th, 2013 as

"NATIONAL ONCOLOGY PHARMACY DAY"

in the City of Vancouver.

Gregor Robertson
MAYOR

BD PhaSeal™ – Closed drug transfer from vial to patient

The BD PhaSeal closed-system drug transfer device builds on two unique features: its double membrane technology, which creates a dry, leakproof connection, and its airtight expansion chamber, which contains all aerosols, particles and vapours as well as equalizes the pressure in the vial.

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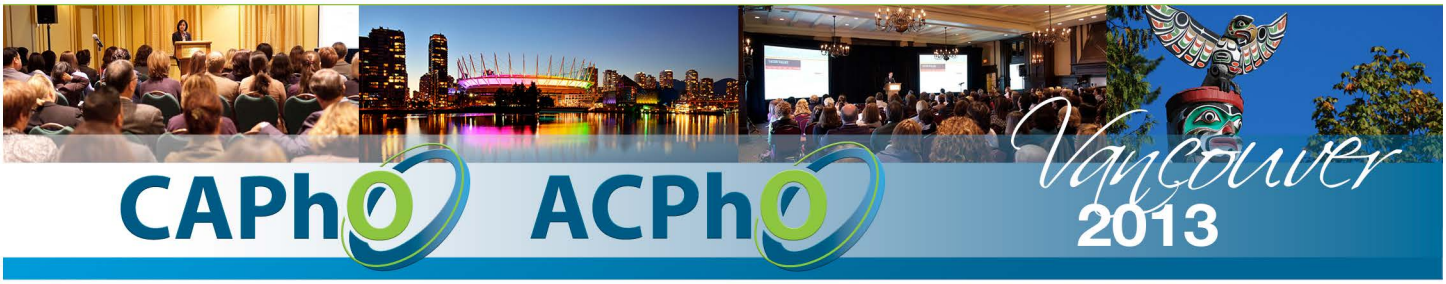

CAPhO / ACPhO

The Canadian Association of Pharmacy in Oncology (CAPhO) is the national forum for oncology pharmacy practioners and other health care professionals interested in oncology pharmacy.

CAPhO, a voluntary organization, promotes the practice of oncology pharmacy in Canada by conducting educational events, maintaining appropriate professional practice standards, facilitating communication between oncology pharmacists, technicians, pharmacy assistants and other interested health care professionals, and developing oncology pharmacy as an area of specialty practice.

L'Association canadienne de pharmacie en oncologie (ACPhO) est un forum national canadien destiné aux praticiennes et praticiens de la pharmacie en oncologie et aux autres professionnels de la santé qui s'intéressent à ce domaine.

L'ACPhO est un organisme bénévole qui fait la promotion de la pratique de la pharmacie en oncologie au Canada en organisant des événements éducatifs, en établissant des normes de pratique professionnelle appropriées, en facilitant la communication entre les pharmaciens en oncologie, les techniciens, les assistants en pharmacie et les autres professionnels de la santé intéressés et en mettant de l'avant la pharmacie en oncologie comme un domaine de pratique specializé.

Contact Us

Canadian Association of Pharmacy in Oncology (CAPhO)
Association and NOPS Management Office

L'Association canadienne de pharmacie en oncologie (ACPhO)
Bureau de gestion de l'association et de SNPO

Sea to Sky Meeting Management Inc.
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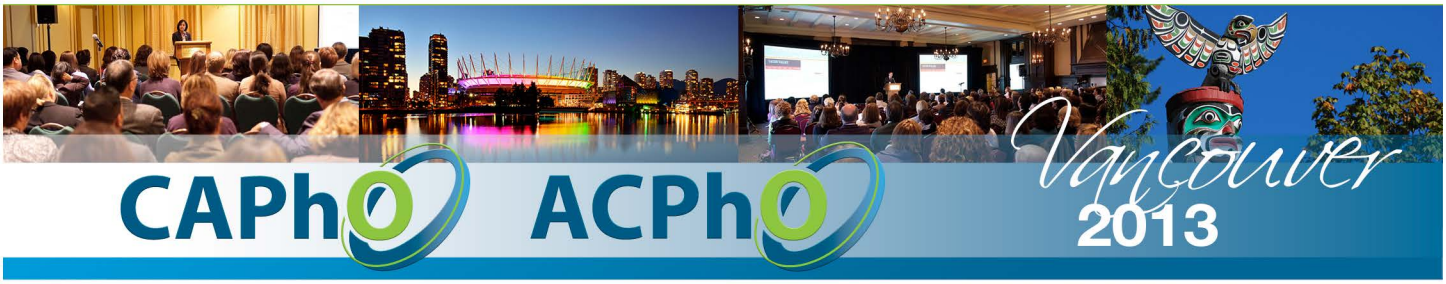

ISOPP 2014

Every two years, the International Society of Oncology Pharmacy Practitioners (ISOPP) hosts its International Symposium in locations around the world. In 2014, it's Montreal's turn! Hundreds of Oncology Pharmacy Practitioners and other representatives from related fields will gather in Montreal, Quebec from April 2-5, 2014.

CAPhO is the national host and is ready to welcome ISOPP 2014 (in place of NOPS 2014).

Plan to **attend** ISOPP 2014 to meet fellow attendees, exchange ideas and experiences, learn from a comprehensive program, promote and advocate for your research and ideas, and enjoy all that Montreal has to offer.

If you are interested in submitting an abstract, follow the directions on the **Abstract Submission** page of the website. **The deadline is November 25, 2013**.

Visit the ISOPP 2014 website at to sign up to receive the **ISOPP 2014 E-Newsletter** in order to stay informed. (If you are a CAPhO or ISOPP member, you are already signed up.)

If you are interested in **sponsoring or exhibiting**, contact the CAPhO Association Management Office. (See Pg. 12 for the contact details.)

www.isoppxiv.org

Tous les deux ans, l'International Society on Oncology Pharmacy Practitioners (ISOPP) tient un symposium international dans une ville différente. Montréal a été choisie comme ville d'accueil de la prochaine édition, qui aura lieu du 2 au 5 avril 2014 et qui réunira des centaines de praticiens de la pharmacie en oncologie ainsi que des représentants de domaines connexes.

L'organisme national hôte, l'ACPhO, est prêt à accueillir le symposium de l'ISOPP 2014 (au lieu du Symposium national de pharmaco-oncologie (SNPO) 2014).

En participant au symposium de l'ISOPP 2014, vous rencontrerez des homologues, partagerez des idées et des expériences, enrichirez vos connaissances grâce à la vaste programmation, aurez l'occasion de promouvoir vos travaux de recherche et vos idées, et pourrez profiter de tout ce que Montréal a à offrir.

Si vous souhaitez soumettre un abrégé, veuillez suivre les instructions à la page **Soumission d'abrégés** du site web. **La date limite de soumission est le 25 novembre 2013.**

Visitez le site web du symposium de l'ISOPP 2014 (en anglais seulement) et **inscrivez-vous à l'infolettre** pour connaître les toutes dernières nouvelles sur l'événement. (Si vous êtes un membre de l'ACPhO ou de l'ISOPP, vous êtes déjà inscrit.)

Si vous souhaitez **commanditer le symposium ou encore être exposant** à ce dernier, veuillez communiquer avec le bureau de gestion de l'ACPhO, dont les coordonnées apparaissent en page 12.

ISOPP XIV XIV INTERNATIONAL SYMPOSIUM ON ONCOLOGY PHARMACY PRACTICE

April 2-5, 2014 • Montréal • Canada

Fairmont The Queen Elizabeth

Submit an Abstract and Register Online!

www.isoppXIV.org

BUILDING PARTNERSHIPS IN CARE

The genomic revolution is leading dramatic change in systemic anticancer treatment. Build and strengthen your local partnerships in care by sharing experiences with oncology pharmacist colleagues from around the world at ISOPP 2014, the premier oncology pharmacy event in this new age of anticancer therapy.

WHY ATTEND?

- Meet more than 500 leaders and pioneers in Oncology Pharmacy from around the world
- Exchange ideas and experiences while learning from a comprehensive program
- Promote and advocate for your research and ideas
- Explore Montreal and its surrounding areas

Visit www.isoppxiv.org to:

- Submit an Abstract – by November 25, 2013
- Register Online
  Early Bird deadline is January 20, 2014 – *save $100 CDN*
- View the Program
- Book Hotel Accommodation
- Book Daily, Pre and Post Symposium Tours
- And More . . .

Montreal is a destination that deftly combines joie de vivre and business savvy, French and English cultures as well as a fascinating history

Your Hosts

INTERNATIONAL SOCIETY OF ONCOLOGY PHARMACY PRACTITIONERS

CAPhO Canadian Association of Pharmacy in Oncology Association canadienne de pharmacie en oncologie ACPhO

Society and Symposium Management Office:
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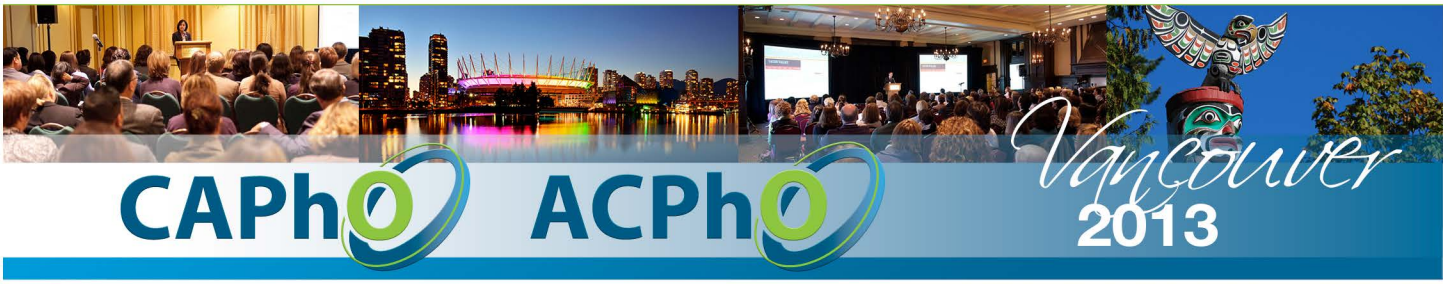


Become a CAPhO Member / Devenir membre de l'ACPhO

We invite you to join CAPhO as a member. Visit **www.capho.org/membership** to learn more and to apply.

Why join? Besides being a member of an association that represents your professional interests, benefits from belonging to CAPhO include:

- Opportunities to communicate and network with other oncology pharmacy professionals across the country via the members' only area of the website **www.capho.org** and at **NOPS**.
- A reduced registration fee of $150 to attend NOPS if membership fees are paid at least six months prior to the NOPS start date.
- Access to the newest addition of CAPhO's online education modules - **Oncology Basics**, worth 5 CEUs.
- Our quarterly electronic newsletter that keeps you informed of Association and Industry news.
- Opportunities to apply for **travel grants and awards**.
- Linkages on national and international levels with other relevant organizations such as the Canadian Association of Provincial Cancer Agencies (**CAPCA**) and the International Society of Oncology Pharmacy Practitioners (**ISOPP**).
- Opportunities to support the **Executive Members** who represent your professional interests and bring your ideas forward to decision makers such as government officials.
- **Volunteer opportunities** in order to gain valuable experience and broaden your network of colleagues and friends.
- Voting privileges at CAPhO's Annual General Meeting.

Nous vous invitons à devenir membre de l'ACPhO. Visitez le site **www.capho.org/membership** pour obtenir plus d'information sur les modalités d'adhésion.

Pourquoi devriez-vous vous joindre à notre association? L'ACPhO défend vos intérêts professionnels et vous offre :

- Occasions d'échanger avec d'autres professionnels du domaine de la pharmaco-oncologie venant des quatre coins du pays au moyen de la zone du site web réservée aux membres ainsi qu'à l'occasion du **SNPO**.
- Des frais d'inscription au SNPO réduits à 150 $ si ces derniers sont payés au moins six mois avant la date de début du SNPO.
- Accès au nouveau **module de formation en ligne de l'ACPhO** portant sur les notions élémentaires d'oncologie (donne 5 crédits d'éducation permanente).
- Cyberbulletin trimestriel vous permettant de demeurer au courant des toutes dernières nouvelles sur l'association et le secteur.
- Occasions de soumettre des demandes **de subventions de voyage** et votre candidature à des prix.
- Création de liens avec des organismes nationaux et internationaux connexes tels que l'Association canadienne des agences provinciales du cancer (**CAPCA**) et l'International Society of Oncology Pharmacy Practitioners (**ISOPP**).
- Occasions de soutenir **les membres dirigeants** qui défendent vos intérêts professionnels et qui soumettent des idées aux décideurs tels que les représentants des gouvernements.
- **Occasions de volontariat** qui vous permettront d'acquérir une précieuse expérience et d'élargir votre réseau de collègues et d'amis.
- Droit de vote à l'assemblée générale annuelle de l'ACPhO.

Please join us for a Luncheon Satellite Symposium held at the National Oncology Pharmacy Symposium 2013 of the Canadian Association of Pharmacy in Oncology (CAPhO).

NOVEL TARGETED AGENTS FOR A PERSONALIZED APPROACH

The speakers will review a few agents that have recently entered the Canadian landscape to discuss optimal approaches to patient management in regards to adherence and toxicities. They will aim at familiarizing oncology pharmacists with the management of side effects of novel agents while assessing mechanism of action and efficacy of selected targeted therapies.

Date: **Friday, November 15th, 2013**

Time: **12:45 – 14:15**

Location: **Hyatt Regency Vancouver**
Plaza Ballroom

Moderator: **Biljana Spirovski,**
B.Sc. (Pharm), R.Ph.
Oncology Pharmacist
Humber River Regional Hospital
Toronto, ON

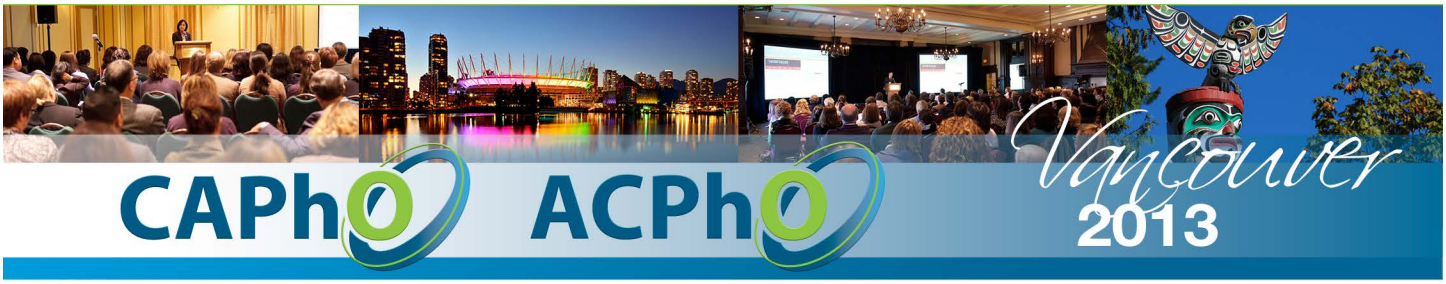
Speakers:

Rick Abbott
Pharmacy Manager,
Provincial Systemic Therapy,
Dr. H. Bliss Murphy Cancer Centre,
Eastern Health
Memorial University
St. John's, NL

Scott Edwards
B.Sc., (Pharm) Memorial, Pharm. D. Washington
Clinical Assistant Professor Oncology
Dr. H. Bliss Murphy Cancer Centre
Memorial University
St. John's, NL

This program is supported by an unrestricted grant from Novartis Pharmaceuticals Canada Inc.

NOVARTIS



CAPhO Awards / Prix de l'ACPhO

Distinguished Service Award
Prix de reconnaissance pour services exceptionnels

The Distinguished Service Award is presented to a member of CAPhO in recognition of outstanding achievement and contribution to the Association and for long-term service. The award consists of an engraved plaque and cash prize of $1,000 and is given annually.

Remis chaque année à un membre de l'ACPhO pour souligner les réalisations et la contribution exceptionelles d'un membre de l'association, ce prix de reconnaissance comprend une plaque gravée et une récompense en argent de 1 000 $.

Merit Award / Prix d'excellence

This award consists of a certificate and a cash award of $1,000 given to a practicing oncology pharmacist(s) and/or pharmacy technician(s) and member(s) of CAPhO in recognition of a project/innovation in oncology pharmacy aimed at improving patient care and outcomes. Up to two awards may be granted. Many pharmacy departments have initiated exciting programs in their centres, and this award is aimed at recognizing them.

Ce prix d'excellence, qui comprend un certificat d'excellence et une bourse de 1 000 $, sera remis à un ou plusieurs praticiens et/ou techniciens de la pharmacie en oncologie et membres de l'ACPhO en reconnaissance de leurs projets ou innovations visant à améliorer les soins aux patients et les résultats qui en ont découlé dans leur sphère d'activité. Deux prix pourront être attribués au besoin. De nombreuses équipes pharmaceutiques ont instauré des programmes intéressants dans leur établissement, et ce prix a pour but de les récompenser pour leurs initiatives.

Poster Awards / Prix pour les affiches

During NOPS, a committee reviews the new posters and awards a certificate and a cash prize of $500 in each of the three poster categories of Research, Pharmacy Practice and Administration.

Dans le cadre du SNPO, un comité examinera les nouvelles affiches et remettra un certificat et un prix en argent de 500 $ dans chacune des catégories de recherche, de pratique de la pharmacie et d'administration.

JOIN US FOR BREAKFAST!

National Oncology Pharmacy Symposium

2 Talks / 2 Speakers

November 15

Nov. 15th, 2013
7:30 – 9:00 AM

Hyatt Regency Vancouver
Room Georgia A/B

Breakfast will be served.

MULTIPLE MYELOMA: the BC experience!

1. Treatment options
2. A snap shot of current clinical trials
3. The evolution of SC bortezomib administration

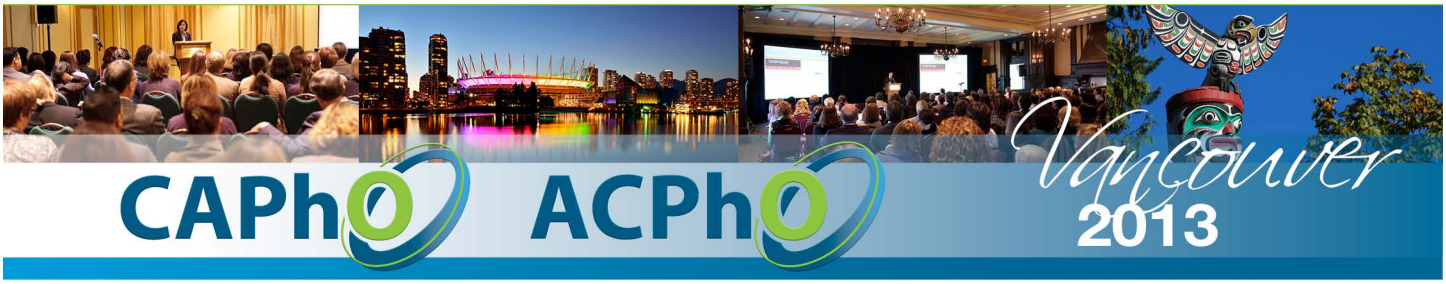
Speaker:
Linda Hamata, BSc(Pharm)
Staff Pharmacist, Vancouver Centre,
BC Cancer Agency, Vancouver, BC

WHAT WE KNOW NOW: Tackling the Evolution of Metastatic Prostate Cancer: A Cased Based, Interactive Approach

Speaker:
Tom McFarlane
BScPhm RPh PharmD
Clinical Pharmacist,
Oncology/Hematology/Palliative Care
Cambridge Memorial Hospital
Adjunct Clinical Assistant Professor,
University of Waterloo

Go to www.capho.org/nops-2013 for the latest updates

Sponsored By: janssen



Thank you / Merci

To the CAPhO Executive / Aux membres de la direction de l'ACPhO

Jennifer Jupp, President / Présidente

Joan Fabbro, President-Elect / Présidente désignée

Carlo De Angelis, Past President / Président sortant

Lori Emond, Treasurer / Trésorière

Victoria Kletas, Awards Committee Chair / Présidente du comité des prix

Christopher Ralph, Communications Committee Chair
Président du comité des communications

Tara Leslie, Education Committee Chair Pharmacist
Présidente du comité de la formation des pharmaciens

Yvonne Dresen, Education Committee Chair Technician / Pharmacy Assistant / Présidente du comité de la formation des techniciens et assistants en pharmacie

Roxanne Dobish, Membership Committee Chair
Présidente du comité d'adhésion

Biljana Spirovski, Research Committee Chair / Présidente du comité de la recherche

To the NOPS Planning Committee Members / Aux membres du comité de planification du SNPO

Kimberly Kuik
Co-Chair / Coprésidente
BC Cancer Agency – Southern Interior, Kelowna, BC

Susan Walisser
Co-Chair / Coprésidente
BC Cancer Agency – Vancouver Island Centre, Victoria, BC

Biljana Spirovski
Research Committee Chair / Présidente du comité de la recherche
Humber River Regional Hospital, Toronto, ON

Kathy Gesy
Past Chair / Présidente sortant
Saskatchewan Cancer Agency, Saskatoon, SK

Mandeep Bains
BC Cancer Agency – Vancouver Centre, Vancouver, BC

Flay Charbonneau
Sponsor Committee / Comité des commanditaires
Sunnybrook Health Sciences Centre, Toronto, ON

Carlo De Angelis
ISOPP 2014 Chair / Président de l'ISOPP 2014
Sunnybrook Health Sciences Centre, Toronto, ON

Michelle Koberinski
Cancer Centre for the Southern Interior, Kelowna, BC

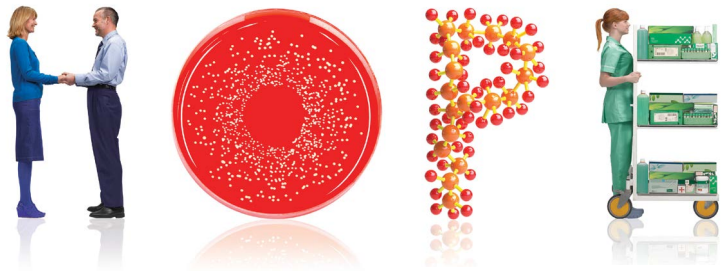
Colleen Thurber
Saskatoon Cancer Centre, Saskatoon, SK

Thanh Vu
Sponsor Committee / Comité des commanditaires
Health Canada, Burnaby, BC

Volunteers / Bénévoles

We would like to thank those who have volunteered their time to assist NOPS 2013 attendees and organizers. We really appreciate the assistance you provide to ensure attendees have everything they need to participate effectively in NOPS 2013.

Nous tenons à remercier tous ceux et celles ayant offert leur temps pour assister les participants et les organisateurs du SNPO 2013. Nous vous sommes reconnaissants d'avoir permis à chacun d'entre eux de vivre une expérience positive.



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Patients are at the heart of everything we do at Roche.

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LEO Pharma Symposium 2013

Sat Nov. 16th at NOPS

6:30 to 8:00 am.

In the Plaza Ballroom, Hyatt Regency
(breakfast will be provided)

Please register for the Symposium on the CAPhO website at
http://www.capho.org/nops-2013/registration

Case Studies in Cancer Patients: Managing Anticoagulation in Kidney Dysfunction

Karen Shalansky, Pharma. D., FCSHP,
Pharmacotherapeutic Specialist,
Nephrology, Vancouver General Hospital,
Clinical Professor, UBC

Theory And Practice: The VTE toolbox and Treatment Considerations from One Oncology Centre

Anjie Yang, RPh. BSc. Phm (Hon), ACPR
Staff pharmacist, Princess Margaret Hospital
University Health Network

Agenda & Learning Objectives

6:40 am Karen Shalansky

- Discuss treatment and prophylaxis strategies for oncology patients with VTE and renal dysfunction
- Q&A

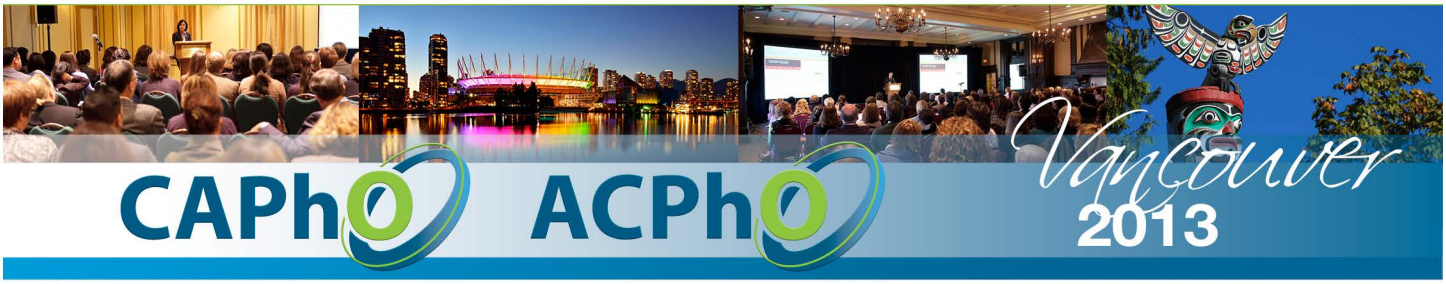
7:30 am Anjie Yang

- Introduce and discuss the VTE toolbox, a prophylaxis and treatment resource for healthcare professionals
- Highlight and discuss unique considerations/scenarios for the treatment of VTE in oncology patients
- Q&A

Symposium Chair

Carlo De Angelis, RPh, ACPR, Pharm D.
Clinical Pharmacy Coordinator (Oncology)
Department of Pharmacy
Sunnybrook Health Science Centre
Sunnybrook Odette Cancer Centre

Supported by an unrestricted educational grant by LEO Pharma Inc.



Accreditation / Accréditation

The Canadian Council on Continuing Education in Pharmacy (CCCEP) is a national organization established to accredit continuing pharmacy education programs intended to be delivered to pharmacy professionals from more than one province or nationally. CCCEP accreditation is recognized by the pharmacy regulatory authorities in all provinces and territories of Canada.

NOPS 2013 is accredited for 10.05 continuing education credits (CEUs).

Letters of Accreditation are available at the Registration Desk.

Le Conseil canadien de l'éducation permanente en pharmacie (CCCEP) est une organisation nationale dont le mandat est d'accréditer les programmes d'éducation permanente en pharmacie offerts aux professionnels du secteur dans plus d'une province ou à l'échelle du pays. L'accréditation du CCCEP est reconnue par les organismes de réglementation en pharmacie dans toutes les provinces et tous les territoires du Canada.

Le SNPO 2013 est accrédité pour 10,05 crédits d'éducation permanente.

Les lettres d'accréditation pourront être cueillies au bureau d'inscription.

Pharmacists / Pharmaciens: #1152-2013-826-C-P

Pharmacy Technicians / Techniciens en pharmacie: #1152-2013-827-C-T

Presentations / Séances

Recorded presentations (voice and slides) are available at www.capho.org/education-resources/nops.

Les exposés enregistrés (audio et diapositives) pourront être consultés sur le site www.capho.org/education-resources/nops.

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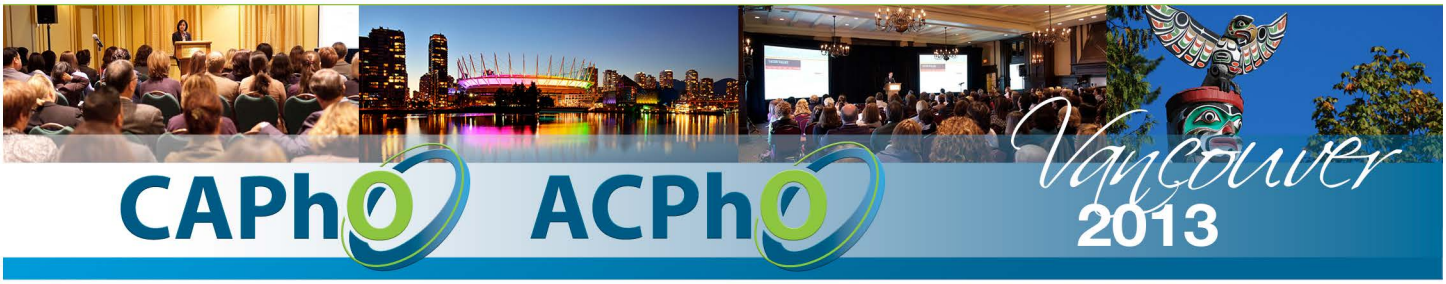


PROGRAM AT A GLANCE

FRIDAY, NOVEMBER 15

07:30 - 09:00
SATELLITE SYMPOSIUM: *Janssen*
Georgia A/B, Second Floor

09:15 – 10:45
SATELLITE SYMPOSIUM: *BD Medical*
Plaza A/B/C, Second Floor

11:00 - 12:30
SATELLITE SYMPOSIUM: *Lundbeck*
Georgia A/B, Second Floor

12:45 - 14:15
SATELLITE SYMPOSIUM: *Novartis*
Plaza A/B/C, Second Floor

14:30 - 16:00
SATELLITE SYMPOSIUM: *Hospira*
Georgia A/B, Second Floor

16:15 - 17:45
SATELLITE SYMPOSIUM:
Hoffmann-La Roche
Plaza A/B/C, Second Floor

18:00 - 19:30
SATELLITE SYMPOSIUM: *Celgene*
Georgia A/B, Second Floor

SATURDAY, NOVEMBER 16

06:30 - 08:00
SATELLITE SYMPOSIUM: *Leo Pharma*
Plaza A/B/C, Second Floor

07:30 - 08:15
CONTINENTAL BREAKFAST
Regency A/B/C, Third Floor

08:15 - 10:00
WELCOME & PLENARY SESSIONS
Regency D/E/F, Third Floor

10:00 - 10:30 – BREAK
Regency A/B/C, Third Floor

10:30 - 12:00
PLENARY SESSIONS
Regency D/E/F, Third Floor

12:00 - 13:00
CAPhO ANNUAL GENERAL MEETING
Regency D/E/F, Third Floor

13:00 - 14:00 – LUNCH
Regency A/B/C, Third Floor

14:00 – 15:20
BREAKOUT SESSIONS 1,2,3
Technician – Oxford/Prince of Wales, Third Floor
Clinical – Regency D/E/F, Third Floor
Administrative / Research – Balmoral, Third Floor

15:20 - 15:50 – BREAK
Regency A/B/C, Third Floor

15:50 - 16:35
BREAKOUT SESSIONS 4,5,6
4 – Oxford/Prince of Wales, Third Floor
5 – Regency D/E/F, Third Floor
6 – Balmoral, Third Floor

16:35 - 18:30
EXHIBITS AND POSTERS VIEWING RECEPTION *(with Poster Authors present)*
Regency A/B/C & Foyer, Third Floor

18:30 - 22:30
DINNER EVENT & CAPhO AWARDS
The Vancouver Art Gallery, 750 Hornby St.

All sessions take place at the Hyatt Regency, except the Dinner on Saturday which takes place at the Vancouver Art Gallery.

SUNDAY, NOVEMBER 17

07:00 - 08:30
SATELLITE SYMPOSIUM: *Bayer*
Plaza A/B/C, Second Floor

07:30 - 08:30
CONTINENTAL BREAKFAST
Regency A/B/C, Third Floor

08:30 - 09:45
CAPhO TOWN HALL
Regency D/E/F, Third Floor

09:45 - 10:15
AWARD WINNING POSTERS
Regency D/E/F, Third Floor

10:15 - 10:30 – BREAK
Regency A/B/C, Third Floor

10:30 - 12:10
PLENARY SESSIONS & CLOSING
Regency D/E/F, Third Floor

12:30 - 14:00
SATELLITE SYMPOSIUM: *Astellas*
Plaza A/B/C, Second Floor

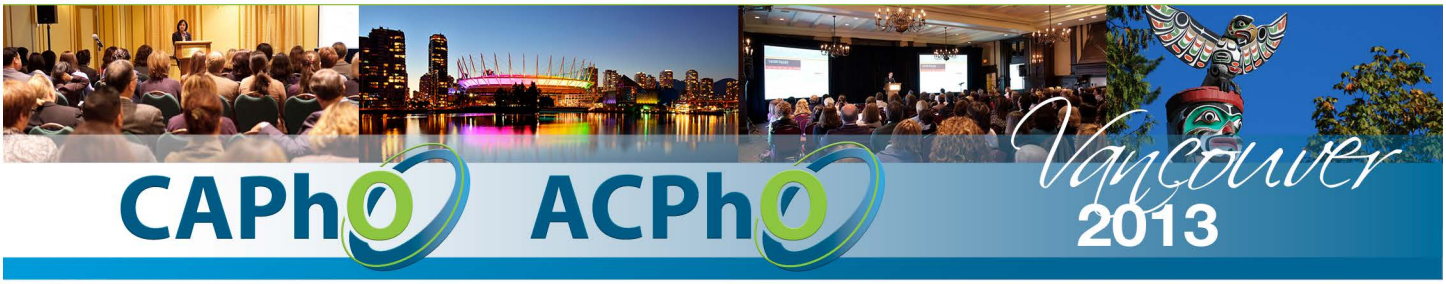
REGISTRATION

Thursday and Friday:
Georgia Foyer, Second Floor
Thursday, November 14, 17:00 - 19:00
Friday, November 15, 07:00 - 18:00

Saturday and Sunday:
Regency Foyer, Third Floor
Saturday, November 16, 06:00 - 16:30
Sunday, November 17, 07:00 - 12:00

EXHIBIT & POSTER AREA

Regency A/B/C & Foyer, Third Floor
Saturday, November 16, 07:30 - 18:30
Sunday, November 17, 07:30 - 10:30



Hotel Floor Plan

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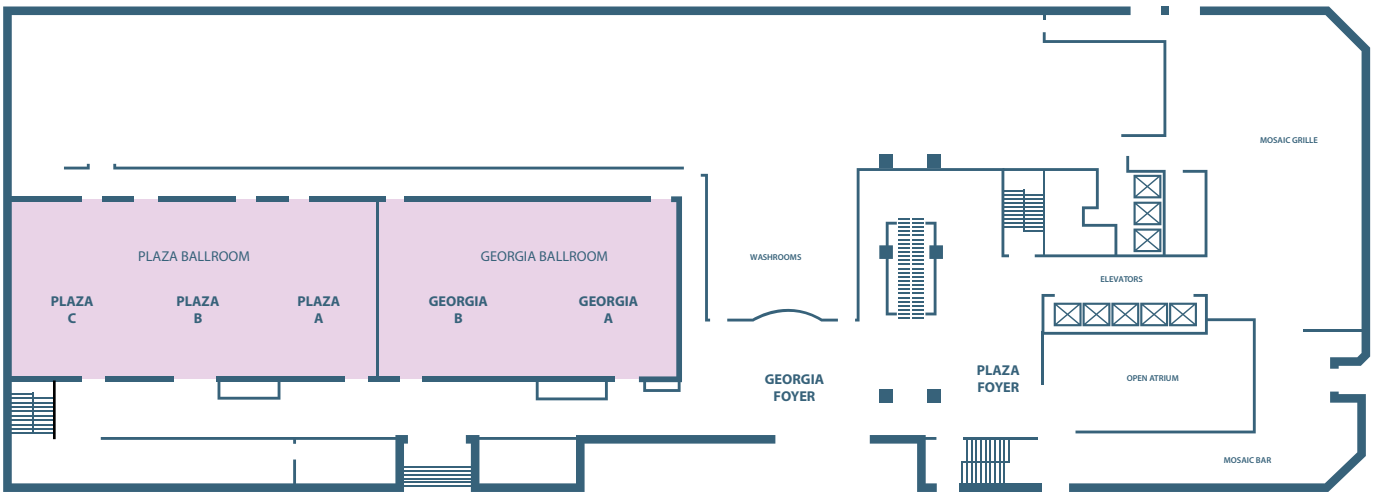
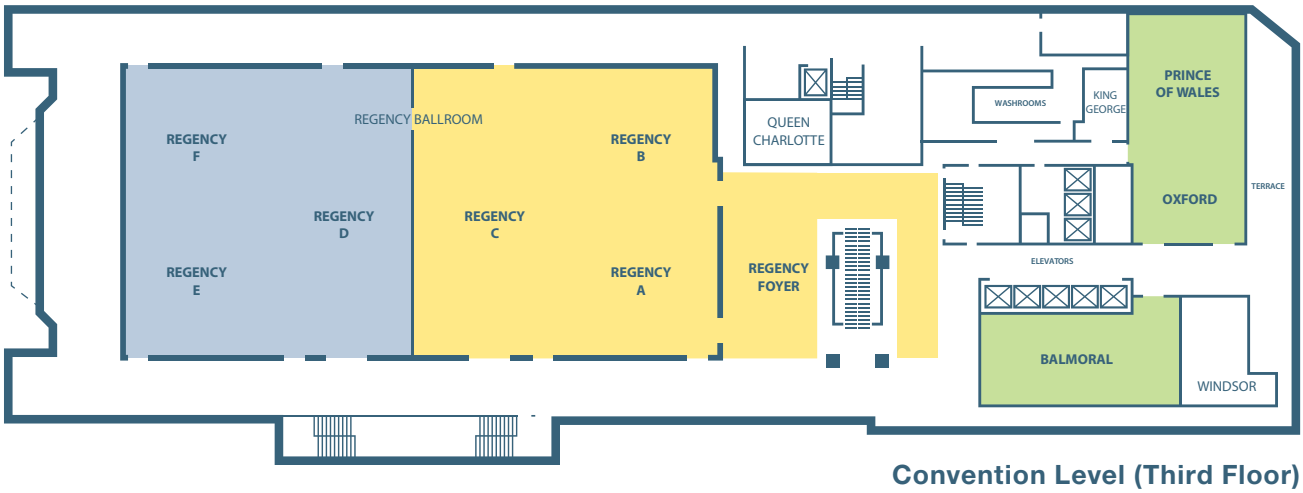
W: www.vancouver.hyatt.com

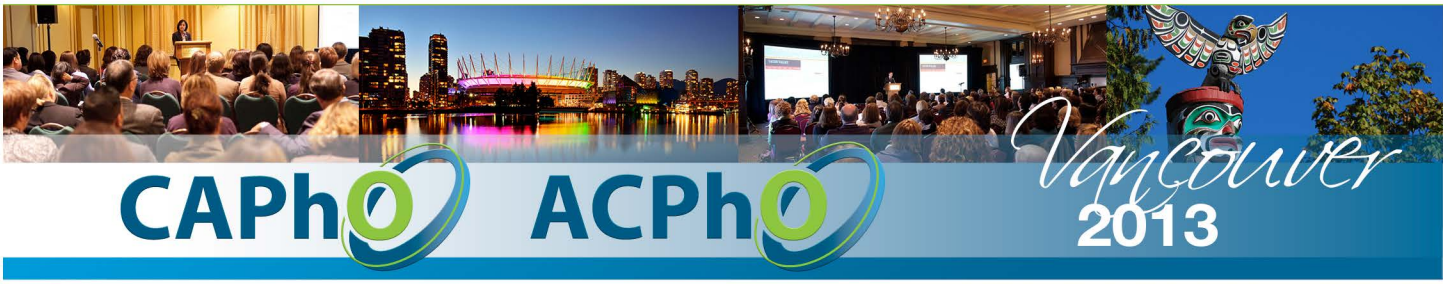


Plaza Level (Second Floor)



Convention Level (Third Floor)

- Plenary – Regency D/E/F
- Breakout Sessions - Regency D/E/F, Balmoral, Oxford/Prince of Whales
- Satellite Symposia – Plaza A/B/C, Georgia A/B
- Exhibit Area – Regency A/B/C & Foyer



NOPS 2013 Program

Friday, November 15

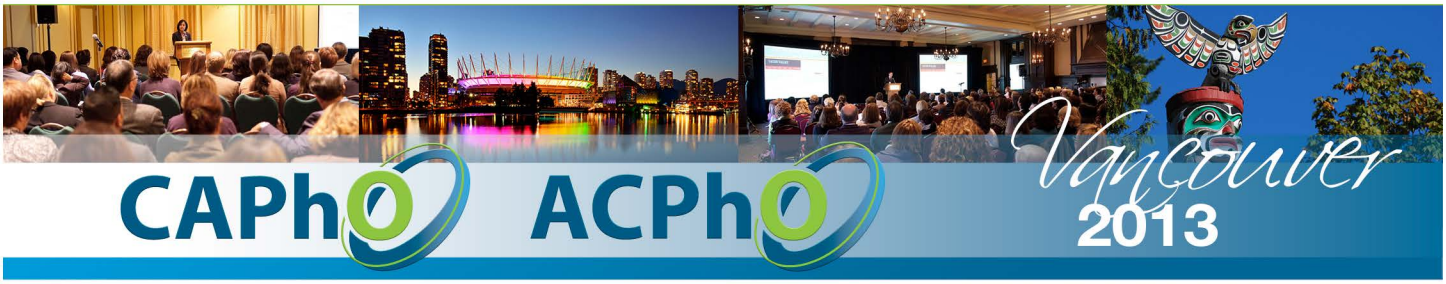
07:30 - 09:00
Satellite Symposium: **JANSSEN** *(Georgia A/B, Second Floor)*
MULTIPLE MYELOMA: THE BC EXPERIENCE!
Linda Hamata, *Vancouver Centre, BC Cancer Agency, Vancouver, BC*
WHAT WE KNOW NOW: TACKLING THE EVOLUTION OF METASTATIC PROSTATE CANCER: A CASED BASED, INTERACTIVE APPROACH
Tom McFarlane, *Cambridge Memorial Hospital, Cambridge, ON*

09:15 – 10:45
Satellite Symposium: **BD MEDICAL** *(Plaza A/B/C, Second Floor)*
ENVISIONING THE ONCOLOGY PHARMACY OF THE FUTURE
E. Thomas Carey, *SwedishAmerican Hospital, Rockford, IL*
Flay Charbonneau, *Sunnybrook Health Sciences Centre, Toronto, ON*

11:00 - 12:30
Satellite Symposium: **LUNDBECK** *(Georgia A/B, Second Floor)*
ADAPTING TO A NEW STANDARD OF CARE FOR CHRONIC LYMPHOCYTIC LEUKEMIA (CLL) AND INDOLENT NON-HODGKIN LYMPHOMA (iNHL) IN DAILY PRACTICE - PRACTICAL TIPS AND RECOMMENDATIONS
Tina Crosbie, *Ottawa Hospital, Ottawa, ON*
Judith Koolwine, *Ottawa Hospital, Ottawa, ON*

12:45 - 14:15
Satellite Symposium: **NOVARTIS** *(Plaza A/B/C, Second Floor)*
NOVEL TARGETED AGENTS FOR A PERSONALIZED APPROACH
Rick Abbott, *Eastern Health, St. John's, NL*
Scott Edwards, *Dr. H. Bliss Murphy Cancer Centre, St. John's, NL*

14:30 - 16:00
Satellite Symposium: **HOSPIRA** *(Georgia A/B, Second Floor)*
NEW ERA IN BIOLOGICS: BIOSIMILARS
George Dranitsaris, *Consultant Pharmacist, Toronto, ON*



16:15 - 17:45
Satellite Symposium: **HOFFMANN-LA ROCHE** *(Plaza A/B/C, Second Floor)*
NOVEL TREATMENTS FOR HER2-POSITIVE METASTATIC BREAST CANCER: WHAT DOES A PHARMACIST NEED TO KNOW?
Kathy Gesy, *Saskatchewan Cancer Agency, Saskatoon, SK*
Nathalie Letarte, *Centre Hospitalier de l'Université de Montréal, Montreal, QC*

18:00 - 19:30
Satellite Symposium: **CELGENE** *(Georgia A/B, Second Floor)*
OPTIMIZING THE CARE OF PATIENTS WITH MYELODYSPLASTIC SYNDROME (MDS) IN CANADA
Heather Leitch, *St. Paul's Hospital, Vancouver, BC*

Saturday, November 16

Click on Details next to Title to view Session Description

06:30 - 08:00
Satellite Symposium: **LEO PHARMA** *(Plaza A/B/C, Second Floor)*
CASE STUDIES IN CANCER PATIENTS: MANAGING ANTICOAGULATION IN KIDNEY DYSFUNCTION
Karen Shalansky, *Vancouver General Hospital, Vancouver, BC*
THEORY AND PRACTICE: THE VTE TOOLBOX AND TREATMENT CONSIDERATIONS FROM ONE ONCOLOGY CENTRE
Anjie Yang, *Princess Margaret Hospital, Toronto, ON*

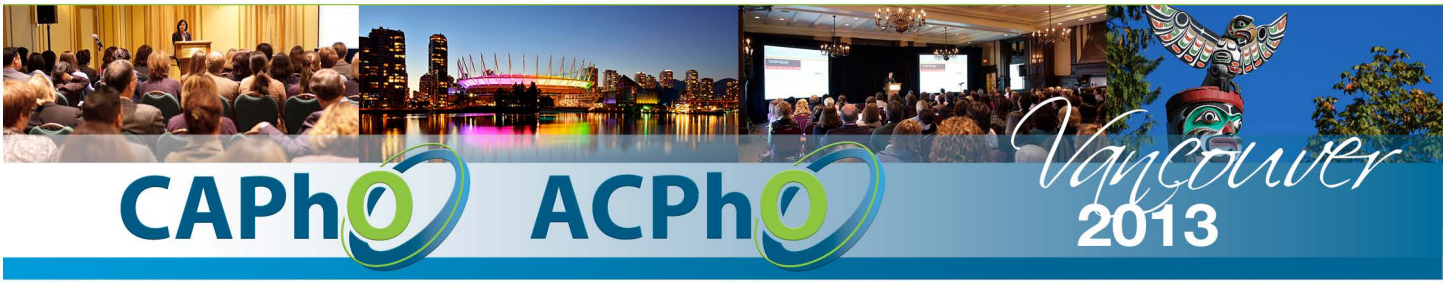
07:30 - 08:15 CONTINENTAL BREAKFAST *(Regency A/B/C, Third Floor)*

08:15 - 08:30
Plenary: **WELCOME** *(Regency D/E/F, Third Floor)*
Susan Walisser & Kimberly Kuik, *NOPS 2013 Co-Chairs*

08:30 - 09:15
Plenary: **YOU ARE SPECIAL** *(Regency D/E/F, Third Floor)* Details
David Chalk, *Award-Winning Entrepreneur, World-Renowned Visionary, Bold Leader, Vancouver, BC*

09:15 - 10:00
Plenary: **THE CLASH OF THE TITANS: WHEN DIABETES AND CANCER COLLIDE** *(Regency D/E/F, Third Floor)* Details
Karen MacCurdy Thompson, *The Moncton Hospital, Moncton, NB*

10:00 - 10:30 BREAK *(Regency A/B/C, Third Floor)*



10:30 - 11:15
Plenary: **LESSONS LEARNED FROM ST-CPOE IMPLEMENTATION** *(Regency D/E/F, Third Floor)* Details
Rick Abbott, *Eastern Health, St. John's, NL*
Ally Dhalla, *London Health Sciences Centre, London, ON*
Moderator: Flay Charbonneau, *Sunnybrook Health Sciences Centre, Toronto, ON*

11:15 - 12:00
Plenary: **STEM CELL TRANSPLANTATION: WHAT HAPPENS AFTER THE CELLS ARRIVE?** Details
(Regency D/E/F, Third Floor)
Dawn Warkentin, *Vancouver Hospital and Health Sciences Centre, Vancouver, BC*

12:00 - 13:00
(Regency D/E/F, Third Floor)
Meeting: **CAPhO ANNUAL GENERAL MEETING**

13:00 - 14:00 LUNCH *(Regency A/B/C, Third Floor)*

BREAKOUT SESSIONS 1, 2, 3

Breakout #1: **TECHNICIAN STREAM** *(Oxford/Prince of Wales, Third Floor)*

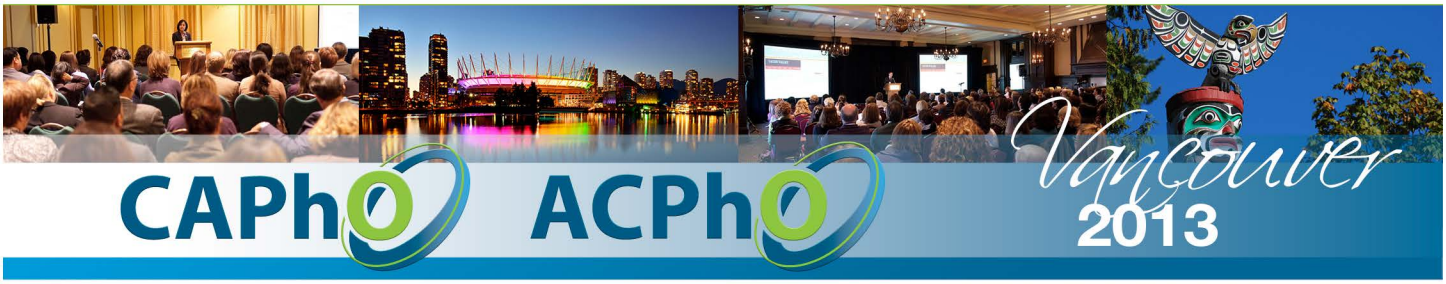
14:00 - 14:40
Part 1: **PREVENTING MUSCULOSKELETAL INJURIES IN THE PHARMACY ENVIRONMENT** Details
Cindy Kitamura, *Provincial Health Services Authority, Vancouver, BC*
Lori Emond, *CancerCare Manitoba, Winnipeg, MB*

14:40 - 15:20
Part 2: **QUALITY IN STERILE COMPOUNDING** Details
Dana Lyons, *Foothills Medical Center Pharmacy, Alberta Health Services, Calgary, AB*

Breakout #2: **CLINICAL STREAM** *(Regency D/E/F, Third Floor)*

14:00 - 14:40
Part 1: **PHARMACISTS' GUIDE TO SYMPTOM MANAGEMENT IN RADIATION ONCOLOGY** Details
Michelle Deschamps, *Saskatchewan Cancer Agency, Saskatoon, SK*

14:40 - 15:20
Part 2: **HOW OLD IS TOO OLD FOR CHEMOTHERAPY IN COLON CANCER? A GERIATRIC ONCOLOGY PERSPECTIVE** Details
Winson Cheung, *University of British Columbia, Division of Medical Oncology, Vancouver, BC*



Breakout #3: **ADMINISTRATIVE / RESEARCH STREAM** *(Balmoral, Third Floor)*

14:00 - 14:40
Part 1: **SUBMITTING A POSTER: IT DOESN'T HAVE TO BE A PAIN** Details
Mário de Lemos, *BC Cancer Agency, Vancouver, BC*

14:40 - 15:20
Part 2: **UNDERSTANDING THE 2014 ACCREDITATION CANADA MEDICATION MANAGEMENT STANDARDS** Details
Paul Filiatrault, *Interior Health, Kelowna, BC*

15:20 - 15:50 **BREAK** *(Regency A/B/C, Third Floor)*

15:50 - 16:35
BREAKOUT SESSIONS 4, 5, 6

Breakout #4: **SUBSEQUENT ENTRY BIOLOGICS** *(Oxford/Prince of Wales, Third Floor)* Details
Leigh Revers, *University of Toronto, Toronto, ON*

Breakout #5: **THINKING OUTSIDE THE BOX – APPROACH TO ADDRESSING THE TOP NON-TRADITIONAL DRUG INFORMATION QUESTIONS** *(Regency D/E/F, Third Floor)* Details
Sally Waignein, *BC Cancer Agency, Vancouver, BC*

Breakout #6: **NOCs IN 2013 (SINCE LAST NOPS)** *(Balmoral, Third Floor)* Details
Colleen Olson, *Saskatoon Cancer Centre Pharmacy, Saskatoon, SK*

16:35 - 18:30 *(Regency A/B/C & Foyer, Third Floor)*
Exhibits and Posters Viewing Reception
Poster Authors will be present to answer questions

18:30 - 22:30 *(The Vancouver Art Gallery, 750 Hornby St. – See Pg 34 for directions)*
Dinner Event: **ART EXHIBITION, DINNER WITH CAPhO AWARDS PRESENTATION AND ENTERTAINMENT**

Saturday Social Events

Once again, this year's Saturday afternoon and evening events will provide great opportunities to network with old and new friends.

16:35 - 18:30 *(Exhibit Area, Regency A/B/C & Foyer, Third Floor)*
Exhibits and Posters Viewing Reception

The Exhibits and Posters Viewing Reception will take place amongst the Exhibits and Posters. Come and meet the Symposium sponsors, poster authors and many of your peers in a casual atmosphere! Participation is included in your registration fee.

18:30 - 22:30
Dinner Event: ART EXHIBITION, DINNER WITH CAPhO AWARDS PRESENTATION AND ENTERTAINMENT
The Dinner event takes place at the Vancouver Art Gallery, the largest art museum in Western Canada, housed in a stunning neo-classical heritage building, originally the provincial courthouse. Dinner service will begin at 19:30; however come early (doors open at 18:30), to enjoy the museum's feature exhibit by Charles Edenshaw, a renowned Haida artist from the early 1900s. The buffet dinner will highlight West Coast cuisine and hospitality with the CAPhO Awards presentation beginning during dessert, followed by the very entertaining Canadian Comedy Award Winner, established actor, comedian, and Cancer patient advocate Daniel Stolfi. Daniel will entertain you with his one man show *"Cancer Can't Dance Like This."* In 2008, Daniel was diagnosed with Acute Non-Hodgkin's T-Lymphoblastic Lymphoma. Just when his acting career was taking off, he put it all on hold to battle the cancer… Daniel uses larger than life characters to vividly portray his experience. Get ready to laugh!

The Vancouver Art Gallery, 750 Hornby Street, Vancouver – The Art Gallery faces onto West Georgia Street and Robson Street, and is at the corner of Howe Street and Hornby Street. Its neighbour is the Hotel Vancouver.

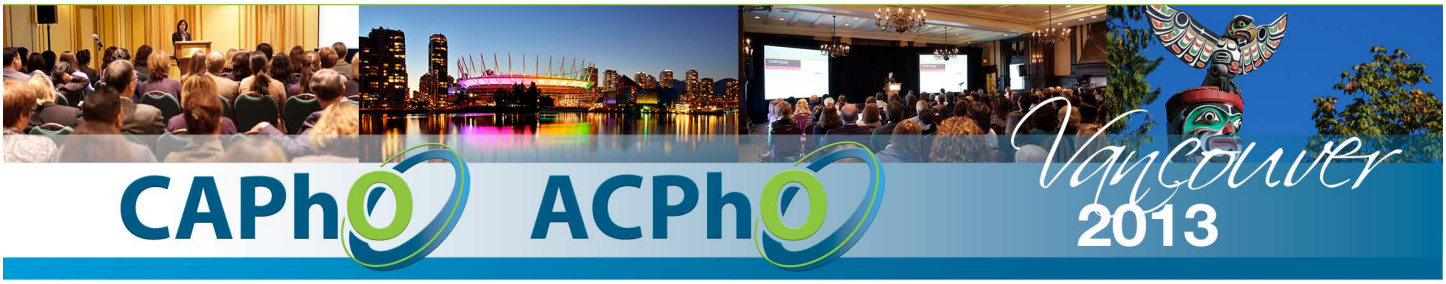
How to get there: Exit the Hyatt Regency at the main entrance onto Burrard Street, turn right and walk on Burrard Street up to Robson Street (only a few blocks). Turn left into Robson Street and walk along Robson Street for one block. You will see the Art Gallery to your left. Use the Art Gallery's Robson Street entrance.

Tel: 604-662-4700
Web: www.vanartgallery.bc.ca

Photo: Melissa Baker

Daniel Stolfi

This Dinner is sold out. If you have been successful in securing a ticket, it was included in your registration package.



Sunday, November 17

SUNDAY

Click on Details next to Title to view Session Description

07:00 - 08:30
Satellite Symposium: **BAYER** *(Plaza A/B/C, Second Floor)*
OPTIMAL MANAGEMENT OF PATIENTS ON ORAL CHEMO OR TARGETED THERAPY: THE OTTAWA HOSPITAL EXPERIENCE
Sean Hopkins, *The Ottawa Hospital Cancer Centre, Ottawa, ON*

07:30 - 08:30 CONTINENTAL BREAKFAST *(Regency A/B/C, Third Floor)*

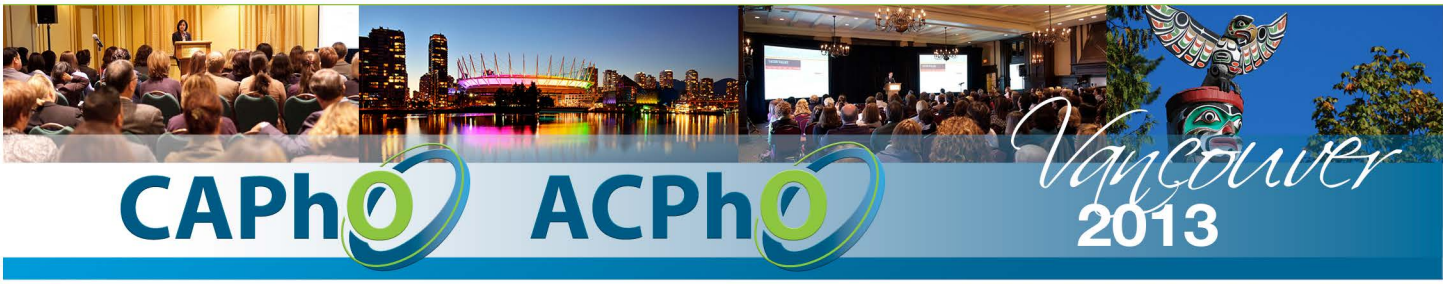
08:30 - 09:45
Meeting: **CAPhO TOWN HALL** *(Regency D/E/F, Third Floor)*

09:45 - 10:15
Plenary: **ORAL SESSIONS – AWARD WINNING POSTERS** *(Regency D/E/F, Third Floor)*
Coleen Schroeder, *CAPhO Awards Committee Chair*

10:15 - 10:30 BREAK *(Regency A/B/C, Third Floor)*

10:30 - 11:15
Plenary: **THE ROLE OF THE CLINICAL PHARMACIST IN COLLABORATIVE PATIENT CARE AND DRUG THERAPY MONITORING IN CANADIAN CANCER CENTRES** *(Regency D/E/F, Third Floor)* Details
David Saltman, *BC Cancer Agency, Victoria, BC*
Scott Edwards, *Dr. H. Bliss Murphy Cancer Centre, St. John's, NL*

11:15 - 12:00
Plenary: **ONCOLOGY 'APPY HOUR: MOBILE DEVICE APPLICATIONS FOR THE PATIENT AND PROVIDER** Details
(Regency D/E/F, Third Floor)
Christopher Ralph, *Tom Baker Cancer Centre, Calgary, AB*
Amy Smith, *Saskatchewan Cancer Agency, Regina, SK*



12:00 – 12:10
Plenary: **CLOSING REMARKS** *(Regency D/E/F, Third Floor)*
Susan Walisser & Kimberly Kuik, *NOPS 2013 Co-Chairs*

12:30 – 14:00
Satellite Symposium: **ASTELLAS** *(Plaza A/B/C, Second Floor)*
THE ABCs OF MANAGING CASTRATION RESISTANT PROSTATE CANCER (CRPC)
Chair: Tom McFarlane, *Cambridge Memorial Hospital, Cambridge, ON*
Alan So, *University of British Columbia, Vancouver, BC*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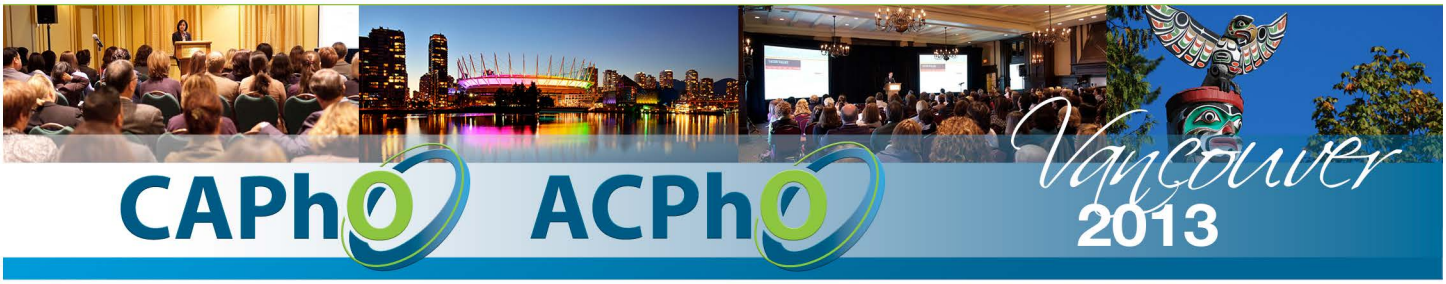


Speakers & Session Descriptions

YOU ARE SPECIAL

SATURDAY

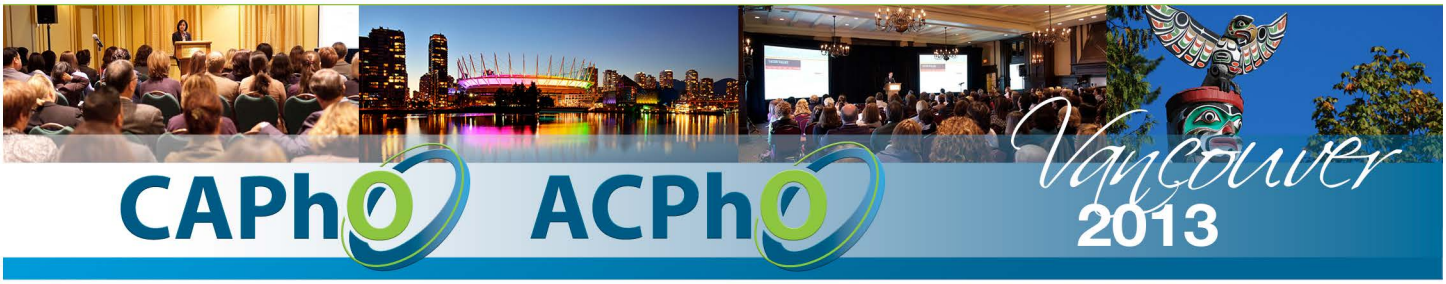
David Chalk
Award-Winning Entrepreneur, World-Renowned Visionary, Bold Leader, Vancouver, BC
08:30 – 9:15 – Regency D/E/F, Third Floor

Biography

Named a 'Leader of the Next Millennium' by Equity Magazine, Dr. David Chalk continues to utilize his successes to inspire others to catapult their lives to a higher level of motivation and accomplishment. Born with severe acute dyslexia, the inability to recognize faces, and being told repeatedly throughout his childhood he would never amount to anything, David grew and sold his first million-dollar business by the age of 23. A one of a kind on many fronts, David is entirely self-taught and has created more than 20 companies in the fields of technology, education, construction, marketing, distribution, manufacturing and retail. A knowledgeable and award-winning marketing and sales expert, David has been asked to lecture at many leading institutions including Stamford and Harvard Universities. He has also used his bold and unconventional business management and leadership skills to help recover businesses on the brink of bankruptcy and skyrocket companies to record-breaking sales. A pioneer in the technology industry, having created Doppler Computers and Chalk Media Inc., David has also managed teams of 500 sales personnel and has coached sales teams in over 50 of North America's largest companies including SunLife, Research in Motion (RIM), Best Buy, Staples, Royal Bank of Canada (RBC), Sony, and Samsung. Among his many accolades, David has received an Honorary Doctorate Degree in Technology from the University of Fraser Valley, a YEO Entrepreneur of the Year Award, the Yahoo Award for Design Innovation, Ernst and Young's Entrepreneur of the Year Award, the Top 40 Under 40 Entrepreneur Award, the Retail Council's Top Marketer Award, the Top 100 Companies to Work For Award, and the BM Retail Award for Excellence in Managing.

Abstract

David Chalk knows the value of the special people who work to better the lives of the sick. He was 11 years old when he was told his mother had terminal cancer. What happened afterwards speaks directly to the theme of "Many Paths, Many Journeys" that there is no one path to recovery and every patient you care for is a journey all on its own. Cancer is ever changing so in order to stay at the forefront of your work, you have to change with it to keep ahead of it. In this keynote, David will inspire the audience through his own personal and professional experiences to embrace and strategically manage change. He will remind you that you are not alone in the work you do but are part of a team that includes the patient, and leave you with a renewed sense of purpose and pride for yourselves and the work that you do.



THE CLASH OF THE TITANS: WHEN DIABETES AND CANCER COLLIDE

SATURDAY

Karen MacCurdy Thompson
The Moncton Hospital, Moncton, NB
09:15 - 10:00 – Regency D/E/F, Third Floor

Biography

Karen MacCurdy Thompson is a graduate of the College of Pharmacy, Dalhousie University. She has a Diploma in Adult Education from St. Francis Xavier University and in 2012 became a Board Certified Oncology Pharmacist. She works full time on the inpatient Oncology Unit of The Moncton Hospital. She provides supportive care to patients, educates nurses, and works collaboratively with the oncology doctors. She enjoys helping patients improve their quality of life, whether it be in care of their cancer, their diabetes or both. In the past year, she has started an education session called NPO and publishes an oncology newsletter.

Synopsis

Learning Objectives

- Understand the relationship between cancer and diabetes
- Clarify the misconceptions around diabetes and cancer
- Identify common cancer treatment issues that affect the blood glucose management of people with diabetes and cancer
- Describe strategies to help achieve the blood glucose target in patients

Abstract

Cancer and diabetes are two chronic diseases that can overwhelm both patients and clinicians. The literature suggests that approximately 20% of patients with cancer also have diabetes and this figure will only continue to rise as life expectancy of both diseases is increasing due to our improved health care knowledge. These two diseases together can pose formidable challenges to clinicians caring for this population. Many medications used in the management of cancer such as steroids and motor inhibitors can affect blood glucose control. Cancer treatments often affect renal and hepatic function and cause anorexia, nausea, vomiting, diarrhea, anemia, bleeding, fatigue, pain, anxiety, memory impairment and depression. Unfortunately, there is little knowledge on the topic and inadequate evidence on how to best manage diabetes while simultaneously treating cancer. We will review some of the most common problems encountered by health care professionals in caring for patients with diabetes and discuss various treatment strategies to reach target goals.

The Clash of the Titans: When Diabetes and Cancer Collide

Karen MacCurdy Thompson, RPH, BCOP,Ad.Ed
Oncology Services
The Moncton Hospital
Horizon Health Network
Moncton, NB
November 16th,2013

Disclosures

- No disclosures

Learning Objectives

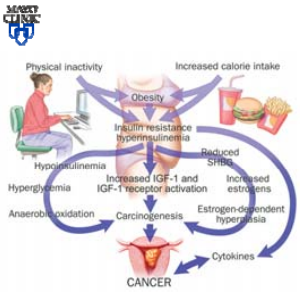
1) Understand the relationship between Cancer and Diabetes
2) Clarify the misconceptions about Diabetes and Cancer
3) Identify common cancer treatment issues that affect the blood glucose management of people with diabetes and cancer
4) Describe strategies to help achieve the blood glucose target in patients

Diabetes and Cancer: Is there a Connection?

- Risk factors that underlie and raise the risk of both diseases include:
  - **Sex**- men are more likely to develop both cancer and type 2 diabetes
  - **Weight**-overweight people are more likely to develop cancer and the association between type 2 diabetes and weight is well established
  - **Diet**-eating patterns that are believed to help prevent diabetes such as limited red and processed meats and abundant vegetables, fruits and whole grains are also associated with a lower risk for many types of cancer
  - **Exercise**-regular physical activity lowers the risk of several types of cancer and likewise moderate intensity exercise can reduce the risk of type 2 diabetes
  - **Smoking**-tobacco is a known risk factor for lung and other cancers. It is also a risk factor for type 2 diabetes and its many complications
  - **Age** > 40 years
  - **Family** Hx

Cause and Effect?

- Glucose and tumor metabolism
  - Role of hyperglycemia in cancer development is not clear
  - Tumor cells replicate at higher rates than normal cells to grow and proliferate
  - Increase intake of nutrients from the surrounding environment
  - Glucose is one source of energy
  - Amino acids such as glutamine are also used by the tumor cells
  - Glucose is closely regulated by growth factor signaling in normal nonproliferating cells
  - Genetic mutations allow the tumor cells to bypass these limitations
  - Activation of growth factor receptors stimulates changes in intracellular signaling, which in turn modify metabolic pathways in support of proliferative growth



Cause and Effect?

- Hyperglycemia is often wrongly implicated as the sole source of cancer nutrition in patients with diabetes, when cancer cells can thrive using other energy sources promoted by genetic mutations and aberrant intracellular signaling

Is cancer risk increased in diabetes patients?

Meta analysis -78 cohort studies

- Increased risk of pancreatic and liver cancer
- Possible increase of kidney, bladder and breast
- Reduced risk of prostate cancer

Artificial Sweeteners-Are they Safe?

- Health Canada reviews all products
- A Recommended daily intake (RDI) is set by the Canadian government for most sweeteners
- The RDI is based on the body weight
- Consult with your dietitian about the amount safe to use
- ***Current evidence suggests that "normal use" concentrations of artificial sweeteners are not a health risk. Be wise and use in moderation***

Diabetes Medications and Cancer Risk

- Weak links between diabetes medications and cancer
- **Metformin**- neutral-to-decreased effect on cancer incidence and mortality.
- **TZDs**-based therapy has been associated with potential cancer risk, primarily pioglitazone with bladder cancer, as well as a protective role in colorectal, lung and breast cancer
- **Incretins**-None of these medications have been linked to cancer in humans, but liraglutide increased thyroid cancer in rats
- **GLP-1 Receptor Agonists, Dipeptidyl Peptidase-4 (DDP-4) Inhibitors –** possible increased association with risks of acute pancreatitis which could lead to increased risk of pancreatic cancer but this is not yet clear
- **Insulin-** studies have failed to find consistent associations between cancer and insulin taken as a medication

Impact of Cancer Treatment on Diabetes Self-Management

- Hershey, Tipton, Given and Davis published in Diabetes Educator 2012 38:779 the study results:
- *Objectives:*
- *(1)* To identify the perceived impact that cancer treatment has on diabetes self-management in older adults with a solid tumor cancer who have completed at least 8 weeks of outpatient chemotherapy
- (2)To identify common challenges regarding the self-management of diabetes in older adults who have completed at least 8 weeks of outpatient chemotherapy

Karen MacCurdy Thompson | Presentation Handouts Pg3

Impact of Cancer Treatment on Diabetes Self-Management

- *Methods:*
  - *8* community-based cancer centers in Michigan and Ohio
  - Self-administered written survey at baseline and a phone survey 8 weeks later
  - Phone survey with 2 open-ended questions which were recorded (1)"Based on your experiences over the past 8 weeks, what do you think have been some of the challenges or issues you have had to face in regards to managing your diabetes?"
  - (2)"In general describe how your diabetes as been affected or impacted since you started undergoing chemotherapy for your cancer?"

Impact of Cancer Treatment on Diabetes Self-Management

- Inclusion criteria:
  - 50 years of age or older
  - Type 1 or 2 diabetes
  - Diagnosis of a solid tumor and eligible for or currently undergoing outpatient IV or oral chemotherapy
  - Patients had to be on daily insulin or an oral agent
  - Able to read, write and speak English
  - Had to be able to follow verbal and written instructions
  - Had to have access to and be able to use a telephone
  - Be able to hear

Impact of Cancer Treatment on Diabetes Self-Management

- Results:
  - 43 individuals enrolled and completed the baseline survey
  - 37 completed the 8 week follow-up (3 did not respond to follow-up, 2 died and 1 was placed in n extended-care facility)
  - Question 1:
    - A significant difference between baseline and 8 week diabetes self-management indicated that patients performed fewer self-management activities for their diabetes after being on chemotherapy for a minimum of 8 weeks. Symptom burden also increased at 8 weeks. The largest perceived impact was on the ability to (1) exercise, (2) manage blood glucose monitoring and (3) eat and drink

Impact of Cancer Treatment on Diabetes Self-Management

- Question 2:
  - 3 common themes emerged
    - (1) self-management issues
    - (2) health issues
    - (3) prioritization

Impact of Cancer Treatment on Diabetes Self-Management

- Results indicate that cancer and its treatment can have a negative impact on the performance of self-management activities for pre existing diabetes in adults 50 and older- with exercise, eating and drinking, and monitoring blood sugars being the most affected
- Limitations:
  - Small sample size
  - Levels of glycemic control pre the study
  - Short time span

Patient/Disease Issues

- Type & Duration of Diabetes
- Patient age/physiology
- Control of diabetes (pre, during and post)
- Nephropathy
- Peripheral Neuropathy
- Medications
- Immune System
- Emotional Stress
- Fatigue /Depression
- Loss of appetite/nausea/mucositis

Karen MacCurdy Thompson | Presentation Handouts Pg4

Medications affecting Diabetes Management

- Steroids-Increase blood glucose (B.G). Used for cancer management and for prevention and treatment of nausea and vomiting
- IV solutions- some chemotherapy drugs, electrolyte replacements and antibiotics may need to be mixed in D_5W solutions for improved stability and compatibility
- Tube Feeding and Total Parenteral Nutrition(TPN)- may be used to supplement or replace regular diet for patients who are unable to tolerate their normal intake of nutritional requirements

  - DO NOT STOP TPN abruptly so as to avoid a hypoglycemic episode. Gradually decrease the infusion rate at least 1 hour before discontinuing TPN.
  - Tube feeding- choose those with less CHO.

Medications affecting Diabetes Management

- Beta-blockers, thiazide diuretics, niacin, pentamidine, etc.
- Newer classes such as the quinolones, protease inhibitors (PIs) and atypical antipsychotic agents such as: clozapine, risperidone, olanzapine, quetiapine -increasing number of reports of glucose abnormalities
- Drug Interactions- with diabetes medication such a co-trimoxazole with insulin; NSAID'S and insulin
- Chemotherapy – asparaginase, cyclosporine, interferon-alpha
- Tyrosine kinase inhibitors- reports of decreasing the BG values and hypoglycemia
- HDAC Inhibitors-risk for hyperglycemia
- Hyperglycemia impairs wound healing process

Steroid Induced Hyperglycemia

- No official guidelines published
- **Proposed mechanisms:**
- Induce a state of relative insulin resistance
- Steroid effects on glucose metabolism include down-regulation of glucose transporter 4 (GLUT-4) in the muscle so that more insulin is needed for the uptake of glucose into cells
- May increase glucose production in the liver
- Reduce binding of insulin to the insulin receptor on cells
- Decrease insulin secretion from the islet cell
- Steroid diabetes is related to the dose of steroids used not the type

Basal and pre meal insulin are the best options for decent control of sugar levels

Are Oral Agents an Option for Steroid Induced Hyperglycemia?

- The role of oral agents in the oncology patients with steroid diabetes is limited because:
- Potential side effects
- Slow onset of action
- Lack of flexibility
- Caution and dose modification in kidney and liver dysfunction

Steroid Induced Hyperglycemia

- **Primarily postprandial hyperglycemia-highest values seen one to two hours post food intake**
- **Morning BG values better due to the weaning off effect overnight**
- **Different half-lives – not clear if this really has an effect or not**
- **Steroid equivalency-**
- **5 mg prednisone= 0.75 mg of dexamethasone=4 mg of methylprednisolone**
- **Long term therapy requires dose tapering. Caution with diabetes management**

Glucocorticosteroids	
Name	Half-life
PREDNISONE (oral)	6-12h
METHYLPREDNISOLONE (IV)	6-12h
DEXAMETHASONE (oral or IV)	1-2 days

Key facts about Steroid Diabetes

- ✓ Primary effect is on postprandial glucose levels
- ✓ Glucose values tend to normalize overnight
- ✓ Glucose levels should be tested before as well as 2 hours after a meal
- ✓ Oral agents are usually inappropriate, ineffective, or too inflexible
- ✓ Insulin is generally the best therapy
- ✓ Prandial insulin is the primary need

Key facts about Steroid Diabetes

- Prandial insulin should be titrated to the glucose 2 hrs post prandially or the next meal
- Basal insulin should be given in the morning and titrated to the glucose level for the following morning
- Target glucose levels are <7.0 mmol/L pre-meals and < 10 mmol/L 2 hours post prandially
- Steroid diabetes is difficult to control: consulting with endocrinologists and champions in diabetes management is important

Reference: J Support Oncol 2006 Oct;4(9):479-482

Practice Pearls

- No way to predict if glucose values will return to normal after cessation of steroids, since steroids may have unmasked a pre-existing tendency toward diabetes
- Severe anemia may affect blood glucose value readings at home so the patient should be aware of this potential false reading
- A1C value is not recommended to monitor short term hyperglycemia, however, it should be done at least once whenever hyperglycemia is noted. A high A1C may show that diabetes has existed for some time prior to the use of steroids
- A1C test only valid if the life of the red cell is normal; therefore in transfused or anaemic patients, false low A1C readings could be seen

Principles for Managing Type II Diabetes

- Hyperglycemia is uncomfortable leading to increase thirst, dry mouth and polyuria and lethargy. These symptoms may not be present unless the sugars run > 13-15 mmol/L. If symptomatic then patient needs to be treated
- If insulin therapy is needed, short acting insulin every 6-8 hours in doses determined by result of the BG values
- Once control is achieved then conversion to an intermediate/long acting insulin should be considered
- Patients naïve to insulin will have increased sensitivity to insulin and thus starting cautiously is advised

Principles for Managing Type II Diabetes

- Weight loss can lower blood sugars. The patient's requirement for hypoglycemic agents may be decreased and cutting the dose in half may be a way to start
- Remember to dose adjust in patients with kidney or liver dysfunction
- If palliative or near end of life, dietary restrictions are not important. The dietary supplements might represent a CHO load and changes in insulin therapy may be required at this time

Canadian Diabetes Association 2013 Guidelines

- Appendix 6- Therapeutic Considerations for Renal Impairment
  - Includes:
  - Antihyperglycemic therapies
  - Lipid-lowering therapies
  - Neuropathy therapies
  - Erectile dysfunction therapies
  - *This is an excellent resource*

Insulin Management-Rule of 3'S

- There are 3 primary insulin regimens for type 2 diabetes:
  - 1. Basal insulin once daily
  - 2. Basal + bolus insulin
  - 3. Premixed insulin twice daily
- There are 3 important principles to remember when dosing insulin:
  - 1. Whatever starting dose you select will be wrong.
  - 2. Titration is the key to success.
  - 3. There is no maximum dose of insulin

Time to Re-Evaluate

- Tight control of blood sugars is not important and may be undesirable in terminally ill patients. Always remember to assess the patients need at the time of intervention and decide what is right for your patient in conjunction with other colleagues

General approach to diabetes in patients with advanced cancer and a prognosis of weeks to months

- Consider a referral to a palliative care specialist and/or the diabetes team
- Relax on dietary restrictions
- Reduce blood glucose monitoring to an acceptable minimum
- Aim for BG values so as to avoid hypoglycemia but not cause complications due to hyperglycemia
- Reduce dose or discontinue any oral agents as appetite decreases
- Assess the need for steroids and ask if the patient is having any hyperglycemic symptoms

General approach to diabetes in patients with advanced cancer and a prognosis of weeks to months

- Check for any signs of oral candida and treat as appropriate
- Always explain your plan to the patient and family and document in the progress notes or the computer system

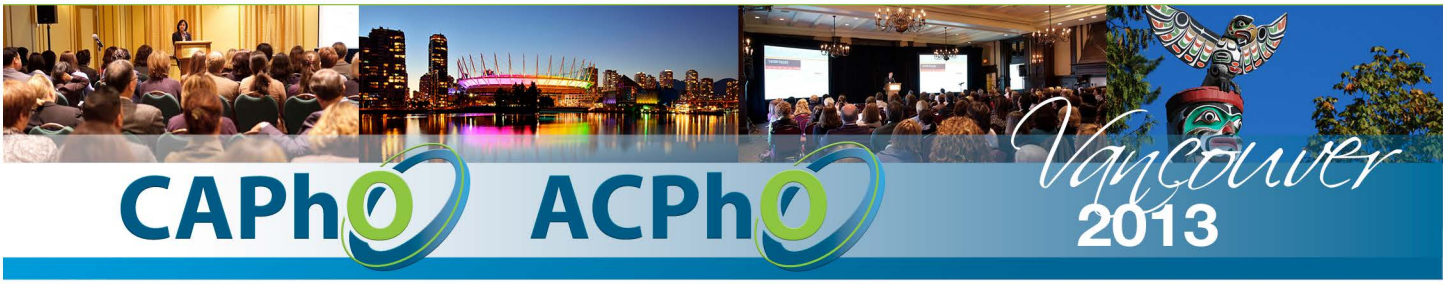
Adapted from *Managing diabetes mellitus in patients with advanced cancer: a case note audit and guidelines by R,. McCoubrie in the European Journal of Cancer Care 14,244-248 (2004)*

Consequences of Inadequate Blood Sugar Control

- Increased length of stay and cost
- Higher infection rate
- Shorter remission periods
- High morbidity and mortality rates
- Decreased immune function
- Decreased quality of life

Discussion

- Treatment and therapies for diabetes in the setting of cancer is a major challenge for health care providers
- Maintaining adequate glucose control reduces the incidence of infection in at risk cancer patients
- Diabetes must not take the back burner when cancer is diagnosed
- Patient education should focus on individualized *how's*
- Further research is needed which investigates the relationship between glycemic control and cancer-related outcomes



LESSONS LEARNED FROM ST-CPOE IMPLEMENTATION

SATURDAY

Rick Abbott
Eastern Health, St. John's, NL

Ally Dhalla
London Health Sciences Centre, London, ON

Flay Charbonneau (Moderator)
Sunnybrook Health Sciences Centre, Toronto, ON

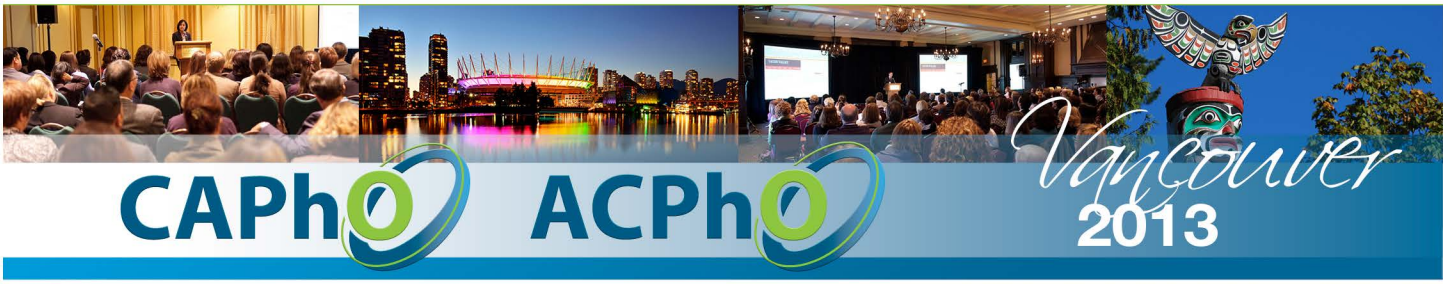
10:30 - 11:15 – Regency D/E/F, Third Floor

Biography – Rick Abbott

Rick Abbott graduated from Memorial University of Newfoundland's (MUN) first School of Pharmacy class in 1990. In 2002, he moved to Oncology Practice as the Pharmacy Manager for the Provincial Systemic Therapy Program of Newfoundland and Labrador. Rick is a lecturer at the MUN School of Pharmacy and serves on several national committees related to cancer care. Rick is the recipient of the James C. Quick Award for Innovative Pharmacy Practice, the Canadian Society of Hospital Pharmacists Award for Leadership in Pharmacy Practice, the Eastern Health CEO Award of Excellence for Safety, and the Canadian Pharmacy Journal's Best Paper of the Year – 2011 Award for *"Oral anti-cancer agents in the community setting: A survey of pharmacists in Newfoundland and Labrador."* Rick has a strong interest in outcomes-based research and education of community care providers with a focus on improving models of pharmaceutical care and patient safety.

Biography – Ally Dhalla

Ally Dhalla is the Pharmacy Manager of Cancer Care and Retail Services at the London Health Sciences Centre (LHSC) in London, Ontario. He is a 2006 graduate from the University of Toronto's Faculty of Pharmacy and joined LHSC in 2008 in the inpatient Medical and Radiation Oncology Service. In 2012, He was promoted to his current role of Manager, where he now oversees all pharmacy aspects in the ambulatory setting.



Synopsis

Learning Objectives

- To identify the three key points for successful implementation of a CPOE system
- To review considerations for selection of a ST-CPOE system
- To describe how to evaluate and mitigate risk during implementation

Abstract

This presentation will be based on insights and highlights of implementing systemic treatment Computerized Provider Order Entry (CPOE) Systems at two large academic centers in Canada as well as on the perspectives of a supplier implementation team member. Discussion will revolve around teaching points and lessons to ensure a smooth transition into a CPOE system. There will be emphasis on the importance of resource allocation, communication and integration with related systems.

Rick Abbott, Ally Dhalla | Presentation Handouts Pg1

CANCERCare A PROGRAM OF EASTERN HEALTH
London Health Sciences Centre

Lessons Learned from ST-CPOE Implementation

Sunnybrook HEALTH SCIENCES CENTRE when it matters MOST
Cancer Care Ontario
Action Cancer Ontario

Flay Charbonneau, Sunnybrook Health Sciences Centre
Rick Abbott, Eastern Health
Ally Dhalla, London Health Sciences Centre

So many choices, so little time...

ARIA COMPREHENSIVE ONCOLOGY CARE
MEDITECH Oncology Management
Epic Specialties
Cerner
MOSAIQ
IntrinsiQ AmerisourceBergen Specialty Group
Improving Insight

Outline

- Introductions
- The St. John's experience
- The London experience
- Reflections from Cancer Care Ontario experience
- Audience participation

Rick Abbott
Ally Dhalla

Key Reflections

Continuous Improvement

- Early stakeholder engagement and leadership support
- Experienced supplier implementation team
- Dedicated on site pharmacy resource and strong supplier pharmacy support
- Need clarity regarding expectations for deliverables: data submissions, timelines, etc.
- Train the right people at the right time e.g. super users vs. end users
- More supplier input and support during test phase of the project e.g. detailed test cases, HL7 testing
- Not enough time allocated for quality assurance and testing
- Longer on-site go-live support from supplier (e.g. 3-4 weeks)

Audience Participation

Rick Abbott, Ally Dhalla | Presentation Handouts Pg2

London Health Sciences Centre

Lessons Learned from CPOE Implementation

London Health Sciences Centre Perspective

Ally Dhalla
Pharmacy Manager
Cancer and Retail Services

CPOE at LHSC

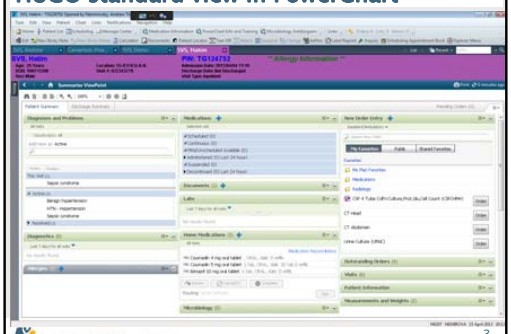
- LHSC Adult Oncology Services have been using CPOE for over 2 decades (OPIS platform)
- In Spring of 2014, LHSC and its 9 Regional/Partner Hospitals will all be transitioning to Cerner based platform.
- HUGO (Healthcare Undergoing Optimization) is the name for this 26.1 million dollar undertaking
- 4 components form HUGO and will transform clinical service delivery model, improve quality and safety of care for patients through evidence- based care, standardization, bar coding technology to reduce medication errors, automation, and process flow change.

4 Components of HUGO (Healthcare Undergoing Optimization)

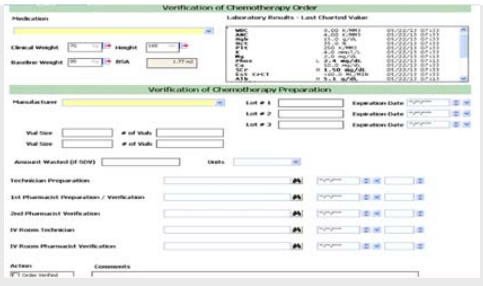
- computerized provider order entry (CPOE),
- electronic medication administration record (eMAR),
- barcoding, also called closed loop medication administration (CLMA),
- electronic medication reconciliation (eMed Rec).

- The Computer software used for HUGO is Cerner

HUGO standard view in PowerChart

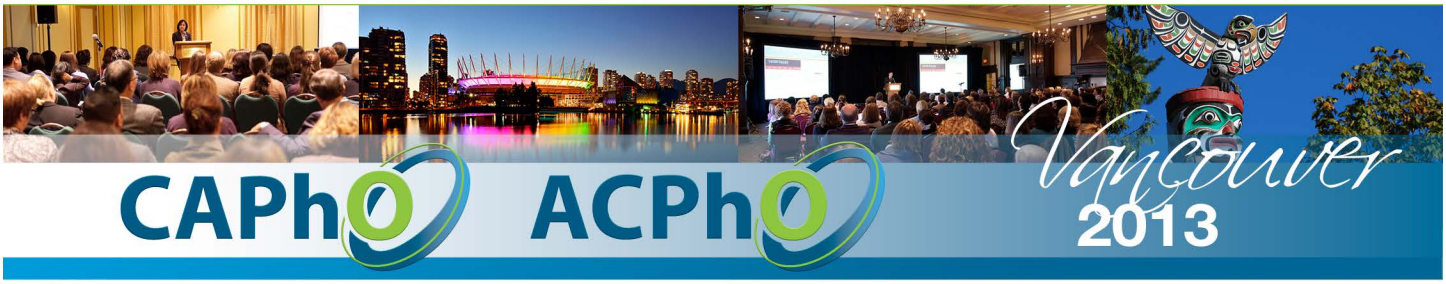


Verification of chemotherapy



LHSC Road to CPOE

- Completed "Current State workflows" – how are we doing the work now and what will change with HUGO
- Reviewed:
  - rounding rules, cumulative lifetime maximum documentation, labeling requirements (complying with ISMP and CCO standards), activating/modifying existing orders in a future state Cerner environment, patient tracking boards (improve communication from patient check-in to discharge), bachfill reports (when are they run etc), CCO reimbursement interface with Cerner.



LHSC CPOE Oncology Plan

- **June 2013:**
  - current state identified over 300 OPIS/chemotherapy protocols which were currently active (ordered at least once in the last 12 months)
  - over 100 clinical trial protocols currently active
  - all oral chemotherapy agents not built into our existing OPIS CPOE system
- We quickly identified the fact, we had A LOT of work to do before Oct 31 2013 (when order sets were due for Cerner to build in the live system).
- Plan: each week from June-Oct, 1 DST was selected to review 10 chemotherapy protocols and begin the build into the Cerner system.
- Began to identify protocols we did not wish to convert into the Cerner system (e.g. outdated, used only once for a specific patient etc) – this flagged 68 protocols

London Health Sciences Centre 6

Lessons Learned from CPOE Implementation

- **Start early!!**
  - LHSC go-live date is April 2014
  - Real work only began in June 2013 (shortly before summer vacation season began)
  - We were originally scheduled to begin workflows in Jan 2013, but due to contract/provider changes, this was delayed.
- **Resource allocation**
  - Required dedicated people
    - Nursing Lead – needs to be clinic and chemo familiar. Many workflows start with the clinic assessment and progress to chemo/pharmacy, so need a Lead who has this experience
    - Pharmacy Lead – demand one! LHSC Adult Oncology was not granted one initially – which resulted in much of the workflow decision making coming to Leadership (not ideal as Leadership is not on the front lines everyday and may not appreciate the changes proposed).

London Health Sciences Centre 7

Lessons Learned (continued)

- **Resource allocation (cont)**
  - Pharmacy Lead – Adult Oncology discovered over the summer, they required a Pharmacist Lead to facilitate the clinical trial aspect, finer detail workflows (e.g dose delays, day 8/15 order-sets) and to become a super-user post-go live date.
  - This individual required to be "out of the system" for a minimum of 3-4 per week to push the project along.
  - After developing a clinical/business case, this was proposed and accepted.
  - Krista is our HUGO Oncology Pharmacist Lead and was dedicated to the HUGO project 4 days per week as of September 23rd. Since her arrival, HUGO Oncology has been propelled forward and is now back on track for our go-live date in 2014.

London Health Sciences Centre 8

Lessons Learned (continued)

- **Resource allocation (con't)**
  - Medical Lead– require DST Oncologist Lead to review order-sets. Each DST decided on their own which Oncologist would represent the team and make the appropriate decisions for power-plan development in Cerner.
  - Facilitated 1 MD point person for Nursing and Pharmacy to liaison with. Avoided the "too many cooks in the kitchen" scenario.
  - Fortunately, LHSC Senior Medical Oncology Director came from a Cerner Hospital in Texas (MD Anderson), so she was the overall Cerner Lead for Oncology

London Health Sciences Centre 9

Lessons Learned (continued)

- **Identify protocols**
  - One of LHSC Adult Oncology gaps
  - Identify which protocols need to be built up front before any work even begins.
  - This will eliminate workload and identify the true number of protocols to build in Cerner.
  - Triage your protocol build – start with the 25 most common ordered protocols in each DST. High probability the same protocol is used in a different DST and can be modified/copied over easily, reducing workload.
  - If possible (and time allows), make any corrections in your current protocols before transfer. If technology exists, can simply dump protocols into new CPOE system.

London Health Sciences Centre 10

Lessons Learned (continued)

- **Regional Impact**
  - What impact does your new CPOE system have on Regional Hospitals?
  - 4 of LHSC's Regional Hospitals are moving to the Cerner platform. Unfortunately 1 site is not – this poses both workflow challenges and patient safety issues. Both are presently under review and LHSC will have a strategy in the near future.
- **Staffing levels around go-live date**
  - LHSC Pharmacy is limiting vacation requests 2 weeks before and 4 weeks after go-live date.
  - This is an attempt to ensure all hands are on deck during the conversion.

London Health Sciences Centre 11

Lessons Learned (continued)

- **Weekly Telephone conference meetings**
  - Oncology was on weekly telephone conferences with Cerner discussing workflow and protocol build.
  - At these weekly meetings, MANY issues arose around workflows and issues associated with integration.
  - Fortunately, Cerner was fantastic to work with and always followed up on outstanding issues.
  - Meeting minutes were maintained and sent out to all participates prior to each meeting.
  - Strongly suggest the same occur at any site implementing a new CPOE system.

Lessons Learned (continued)

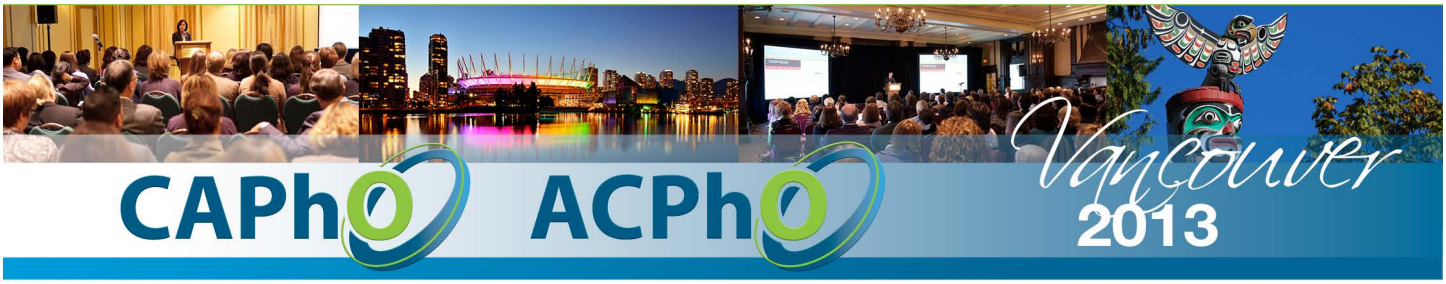
- **OPIS Decommission**
  - LHSC will be decommissioning OPIS in April 2014
  - To ensure access to files does exist, LHSC will continue to have read-only access to files until the term of the CCO contract is complete for all sites.
- **NDFP Funding**
  - Currently, New Drug Funding Program (NDFP) is linked into OPIS to trigger eligibility forms and funding upon administration of drug.
  - With Cerner Oncology and the decommissioning of OPIS, this functionality is lost.
  - IT has been working very hard to establish an interface to ensure e-Claims (funding portal for CCO) is linked with Cerner Oncology to ensure revenue flow continues to occur at the Program Level.

Top 3 things for a successful CPOE implementation

1) Have the dedicated staffing resources working on the project

2) Start early!!! Plan out protocol build and staffing around go-live date

3) Plan weekly telephone conferences with Service Provider and hospital participates to ensure each step is reviewed.



STEM CELL TRANSPLANTATION: WHAT HAPPENS AFTER THE CELLS ARRIVE?

Dawn Warkentin
Vancouver Hospital and Health Sciences Centre, Vancouver, BC
11:15 - 12:00 – Regency D/E/F, Third Floor

SATURDAY

Biography

Dawn Warkentin graduated from Pharmacy at the University of Alberta then completed a hospital residency in Vancouver followed by a Pharm D from the Medical University of South Carolina. After completion of the PharmD, she pursued an oncology hospital residency at the University of Texas MD Anderson Cancer Center. She stayed on at MD Anderson for a couple of years to develop its outpatient BMT unit. In 1995, she returned to Vancouver where she currently resides. Dawn works as a clinical pharmacy specialist in the Leukemia/BMT Program of BC in Vancouver. She is also a Clinical Professor at the University of British Columbia.

Synopsis

Learning Objectives

- Discuss the evolving use of stem cell transplantation and trends in the selection of donors
- Describe the common late complications after hematopoietic stem cell transplantation
- Review the management of common late complications after hematopoietic stem cell transplantation

Abstract

Hematopoietic stem cell transplant (HSCT) is an effective form of therapy for a variety of malignant and non-malignant diseases. With the tremendous advances in supportive care in the last couple decades and an increasing number of HSCTs being performed, there are a larger number of survivors living longer. Although most survivors enjoy a normal, healthy life, some face serious challenges due to transplant-related complications.

PREVENTING MUSCULOSKELETAL INJURIES IN THE PHARMACY ENVIRONMENT

SATURDAY

Cindy Kitamura
Provincial Health Services Authority, Vancouver, BC

Lori Emond
CancerCare Manitoba, Winnipeg, MB

14:00 - 14:40 – Oxford/Prince of Wales, Third Floor

Biography – Cindy Kitamura

Cindy Kitamura is an ergonomics advisor at the Provincial Health Services Authority (PHSA). She graduated from Simon Fraser University in 1996 with a Bachelor of Science (Kinesiology). Since graduation, Cindy has worked directly in the field of ergonomics in a variety of industries, including: the BC sawmill industry where she worked as an ergonomic consultant with Advanced Ergonomics, and in the university environment as an ergonomic officer with the University of British Columbia. For the past seven years, Cindy has been focused on the prevention of musculoskeletal injuries in the hospital environment.

Biography – Lori Emond

Lori Emond graduated from the South Winnipeg Technical Center in 1988. She worked at the Health Sciences Center for the first twelve years of her career in the Sterile Room, spending the majority of time in preparation of both TPN and chemotherapy. She was also responsible for training new staff in sterile technique. In the fall of 2000, Lori moved to a position at CancerCare Manitoba where she set up everything to return the production of chemotherapy to the centre. She had spent a good part of her time at CancerCare in preparation of chemotherapy and training new staff, until suffering a repetitive strain injury. She currently continues to work half-time within the pharmacy but is no longer able to work in the Sterile Room. She works half-time with the Community Oncology Program as the Community Liaison Pharmacy Technician providing support for staff in our rural treatment centres.

Synopsis

Learning Objectives

- What can individuals do to reduce their risk of injury?
- What can organizations do to reduce their employees' risk of injuries?
- What happens when the approach is comprehensive?
- Information on how one accesses the Biomedical Imaging and Therapy facility

Abstract

What puts workers in a pharmacy environment at risk of musculoskeletal injuries (MSIs)? Why are MSIs so prevalent in this type of work environment? This session takes basic ergonomic principles and applies them to real life risk factors in the pharmacy environment. Lori has had firsthand experience with exposure to MSI risk factors and speak about how her MSI has affected her work and life and how she manages her injury.

Musculoskeletal Injury (MSI) Prevention for Pharmacy Workers A Personal Experience

Lori Emond
Pharmacy Technician
Treasurer - CAPhO

CancerCare MANITOBA
ActionCancerManitoba

- Explain Injury and Treatment Experience
- Describe what can be done to reduce risk factors for injury
- Provide information on living with a permanent partial impairment

Objectives

- Started career in 1988 at Health Sciences Centre
- Started to work in an IV room in 1989
  - IV Room training was on the job
  - Risk factors of musculoskeletal injury (MSI) were not explained
  - Ways to reduce these risks were not taught
  - IV positions were all day, multiple days

Personal History

- 10 years into Career – Carpel Tunnel Syndrome
  - Numbness and pain in hands
  - Initiated Physiotherapy
  - Wrist splints made and worn 24/7
  - Nerve conduction study revealed Carpel Tunnel Syndrome
  - Surgical Intervention required

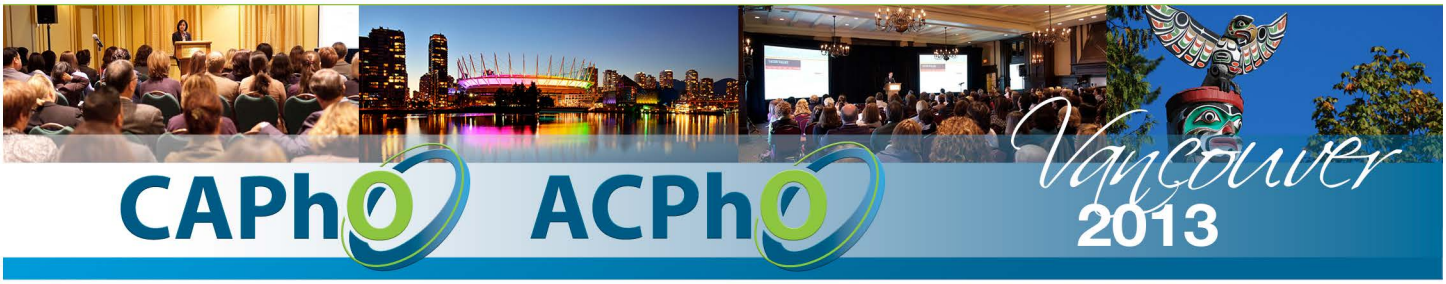
1st Repetitive Strain Injury – con't

- What did I learn from this experience
  - Wearing splints to keep wrist in neutral taught me to work this way all the time
  - Do not push with the heal of hand…full of nerves which would be compressed
- Automation – Automixer and Micromixer changed the face of manual TPN manufacturing

1st Repetitive Strain Injury -conclusion

- Moved to CancerCare Manitoba in 2000
  - With little understanding of Musculoskeletal injuries, staff continued to work multiple days in a row
  - Again no automation currently available
  - Approximately 2006 began to experience elbow pain
  - Went to see physician and physiotherapist for treatment
  - Heat, ultrasound, stretches and exercises, electrical stimulation, ice
  - Steroid injections
  - Improvement made in time, but no changes in the workplace

2nd Repetitive Strain Injury



- 2009 – pain back but more severe and now it was both elbows
- Initiated physiotherapy with all the same modalities + acupuncture
- Over 6 months of treatment, some improvement
- Suggestion was to try cortisone again
- Returned to physician

2nd Repetitive Strain Injury – con't

- Physician requested my work place to limit my repetitive duties
- Unable to accommodate, the request was to take sick leave
- In total I would be off work for approximately 22 months

2nd Repetitive Strain Injury – con't

- At the request of my physician, I changed to a physiotherapist who specializes in upper extremities
- New assessment found I could not grip, I could not pinch and I could not rotate my hand without excessive pain.
- Continued with heat, ultrasound, local manual mobilization, stretches, exercises, electrical stimulation and ice
- Some additional work to shoulders

2nd Repetitive Strain Injury – con't

- Steroids were tried for a second time
- Limited progress was made so one more option was explained and requested for approval
- Prolotherapy – final "non-invasive" option
  - Injection q 2 weeks x 4
  - Could do nothing during this process
  - Physiotherapy re-initiated post waiting period after final injection

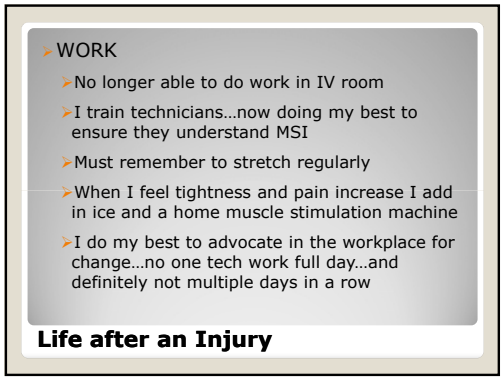
2nd Repetitive Strain Injury – con't

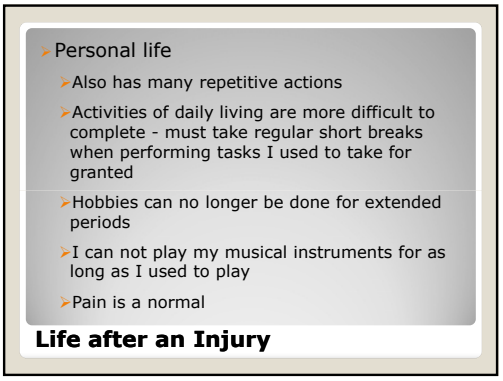
- Again…limited success after long, very painful process
- Last Option was a Surgical Consultation
  - 50-50 chance of success
  - Can only do one arm at a time
  - September 2010 - 1st surgery
  - January 2011 – 2nd surgery
  - Back to physiotherapy to rehabilitate

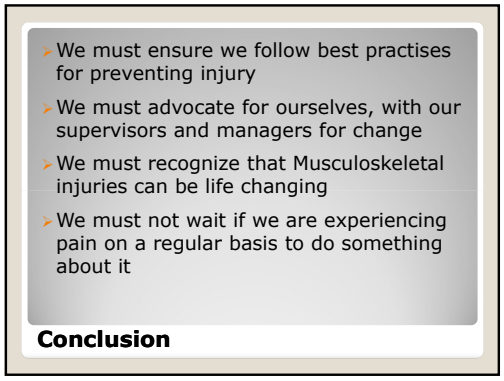
2nd Repetitive Strain Injury – con't

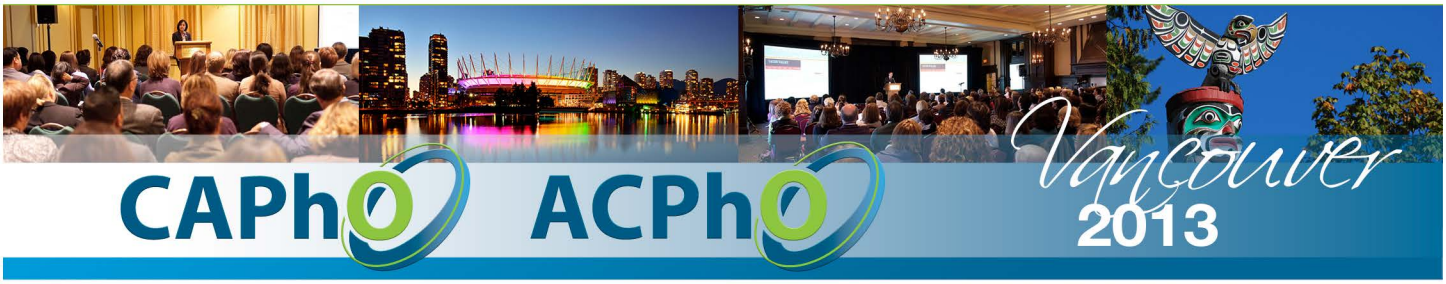
- Slow graduated return to work
- Functional Capacity Assessment was initiated to assess my physical capabilities
- Now back to work full time with permanent restrictions
- Permanent partial impairment
- When training new staff…I try to teach methods to reduce risks of MSI

2nd Repetitive Strain Injury – conclusion


WORK
No longer able to do work in IV room
I train technicians…now doing my best to ensure they understand MSI
Must remember to stretch regularly
When I feel tightness and pain increase I add in ice and a home muscle stimulation machine
I do my best to advocate in the workplace for change…no one tech work full day…and definitely not multiple days in a row
Life after an Injury


Personal life
Also has many repetitive actions
Activities of daily living are more difficult to complete - must take regular short breaks when performing tasks I used to take for granted
Hobbies can no longer be done for extended periods
I can not play my musical instruments for as long as I used to play
Pain is a normal
Life after an Injury


We must ensure we follow best practises for preventing injury
We must advocate for ourselves, with our supervisors and managers for change
We must recognize that Musculoskeletal injuries can be life changing
We must not wait if we are experiencing pain on a regular basis to do something about it
Conclusion



QUALITY IN STERILE COMPOUNDING

Dana Lyons
Foothills Medical Center Pharmacy, Alberta Health Services, Calgary, AB
14:40 - 15:20 – Oxford/Prince of Wales, Third Floor

SATURDAY

Biography

Dana Lyons is a regulated pharmacy technician with the Alberta College of Pharmacists and is an operations manager at the Foothills Medical Center Pharmacy with Alberta Health Services. Dana graduated from Red Deer College in 1995 with a Diploma in Pharmacy Technician and is a certified LEAN Six Sigma BlackBelt. She is currently enrolled in a Bachelor of Management degree program at Athabasca University. Dana has worked for 11 years managing at the Central Production Facility in Calgary, and has focused her interests and skills on understanding and applying USP <797> within the facility. In 2008, Dana attended the Denver Star Center Training Program for Understanding USP <797> and is working in a Sterile Compounding Working Group with the Canadian Society of Hospital Pharmacists. Dana has a strong interest in USP <797> and its application and challenges applying this standard in Canada.

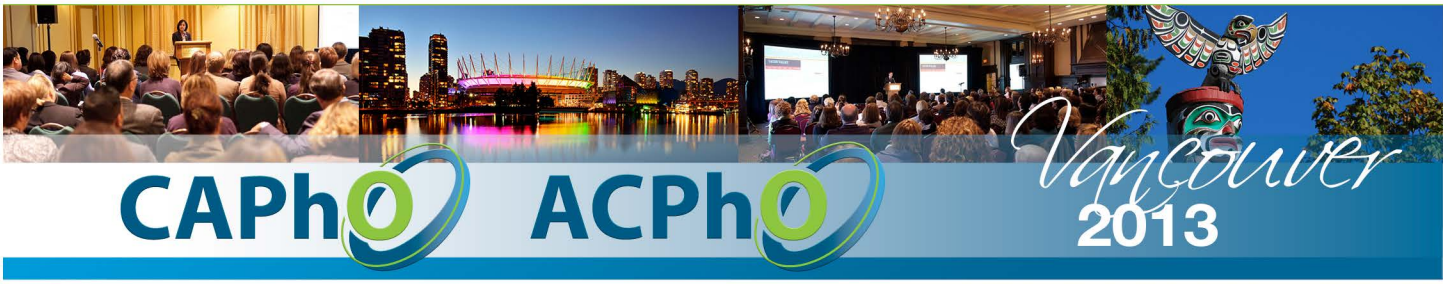
Synopsis

Learning Objectives

- Quality sterile compounding through documentation
- In-process control
- Validations and measurements of a successful quality cleanroom management program
- Cleanroom validation and microbial sampling according to USP <797>
- A case example of how aspergillus contamination found in insulated ducts in a compounding facility led to full implementation of USP <797>; Introduction to cleanroom validation using <797> as a guide and process validation by way of microbial sampling and aseptic technique validation technique

Abstract

This discussion will be based on insights of past experience specifically around contaminated cleanroom air and the potential to harm patients without a quality program in place. Discussion will be around documentation and in-process controls used to safely manage a sterile compounding program as well as tips around where to start with USP <797> implementation and where you can identify potential gaps in cleanroom management and corrective actions that one could consider. This discussion will include employee-centric activities to validate and ensure quality is top priority in sterile compounding.



PHARMACISTS' GUIDE TO SYMPTOM MANAGEMENT IN RADIATION ONCOLOGY

Michelle Deschamps
Saskatchewan Cancer Agency, Saskatoon, SK
14:00 - 14:40 – Regency D/E/F, Third Floor

SATURDAY

Biography

Michelle Deschamps obtained her Bachelor's Degree at the University of Saskatchewan's College of Pharmacy in 1989 and returned to complete a Master's Degree in 2002. Michelle joined the Saskatchewan Cancer Agency as a staff pharmacist in 2009. Prior work included a wide array of settings such as community pharmacy, hospital pharmacy, drug information and a military Health Services Unit. Michelle is the inaugural Pharmacist on the multidisciplinary Radiation Therapy Reviews Team at the Saskatoon Cancer Clinic and currently spends approximately 50 percent of her time in Radiation Oncology helping patients manage treatment-related adverse events.

Synopsis

Learning Objectives

- List the most common radiation therapy-induced treatment reactions
- Estimate the onset and duration of the above
- Suggest appropriate management strategies

Abstract

For more than 100 years, radiation therapy has been a cornerstone of cancer treatment. In addition to the well known radiation-induced skin reactions, there may be other adverse reactions that pharmacists can help manage. Patients receiving radiation therapy for head and neck cancers, brain tumors, gastric or esophageal cancers and those treated with concurrent chemoradiation are at high risk of developing adverse effects requiring intervention and are sometimes unable to complete their prescribed treatment due to the severity of those events.

Pharmacists' Guide to Symptom Management in Radiation Oncology

Michelle Deschamps, BSP MSc
Saskatchewan Cancer Agency
NOPS 2013

Disclosure

- No financial sponsorships to disclose.

Objectives

- Understand the role of pharmacists in managing radiation-induced adverse effects
- List the radiation treatments most likely to require pharmacist intervention.
- Identify the most common treatment strategies for radiation-induced adverse effects

Radiation Therapy Reviews Clinic

- Each radiation oncologist has ½ day per week
- Patients experiencing adverse effects, patients on "problematic" radiation protocols, patients in their last week of treatment
- Reviews team consists of radiation oncologist, radiation therapist, nurse, dietitian, and now

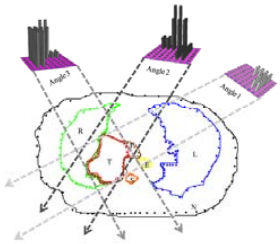
Radiation Therapy Reviews Clinic

- Each radiation oncologist has ½ day per week
- Patients experiencing adverse effects, patients on "problematic" radiation protocols, patients in their last week of treatment
- Reviews team consists of radiation oncologist, radiation therapist, nurse, dietitian, and now a pharmacist!

Targeted Patients

- Concurrent chemo and radiation therapies
- Brain
- Head and neck
- Gastroesophageal
- Rectal
- Pancreatic cancers

Radiation Therapy Simplified



Steps in External Radiation Therapy

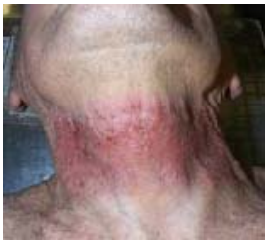
1. Imaging (usually CT) targets the cancer tumor
2. Image-guidance technologies precisely aim radiation beams at the cancer
3. High-energy radiation beams are delivered to the cancer
4. Radiation damages cancer cell DNA and growth is disrupted

Adverse Reactions

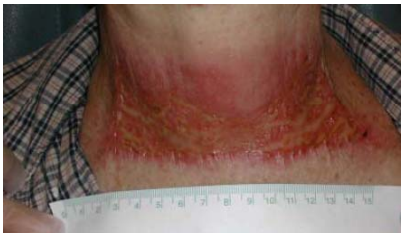
Depends mainly on:

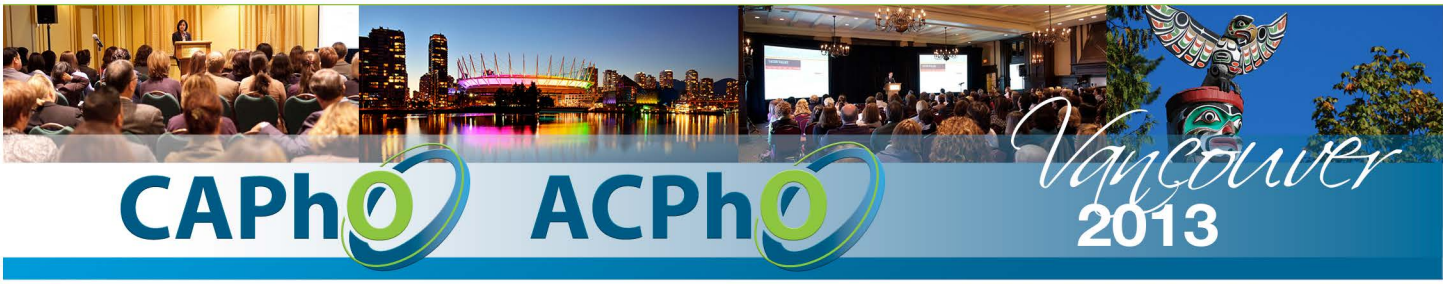
- Specific area or organs being treated
- Size of the area being treated
- Type of radiation therapy
- Treatment schedule
- Patient's overall health

Skin Burns - Grade 1/2



Skin Burns - Grade 3





Skin Burns

Patients should:

- Wear loose clothing
- Avoid sun and wind exposure
- Wash with warm water and mild soap
- Moisturize with an unscented cream (calendula cream ?, aloe vera lotion?)
- Saline compresses

Skin Burns continued

Patients should NOT:

- Rub or scratch the injured area
- Place hot or ice packs on the treatment area
- Apply creams right before treatment
- Swim in chlorinated pools

Topical creams

- Steroid creams for itching or pain if skin is still intact.
- If skin has broken down, silver sulfadiazine or 1-2-3 paste (Zinc oxide 7.5% & Burrow's solution in anhydrous lanolin)

Mucositis

- Can result in hospitalization, breaks in treatment and placement of feeding tubes
- Grade 3 or higher in 25-60% of patients on RT alone for tumors of head and neck
- 43-76% in concurrent chemoradiation
- More severe and longer duration (3-12 weeks) than chemo-induced mucositis (3-12 days)

Mucositis Management

- Encourage basic oral care
- Remove dentures before bed
- Rinse mouth QID with salt water or baking soda and water.
- Topical analgesia eg "Magic Mouthwash"
- Systemic analgesia
- Many patients will have difficulty swallowing tablets/capsules.

Mucositis Management continued

- Patient should be examined for oral thrush as candida overgrowth may occur with changes to the mucosa.
- Dietitian consult is required as oral intake of nutrition and fluids is often compromised.

Mucositis – Specialty Products

- Supersaturated calcium phosphate solution. Rinse 4-6 times a day (Caphosol®) helpful to prevent mucositis if the radiation beams travel through areas that can be reached by gargling.
- Glycerol dioleate oral solution (Episil®) – barrier forming lipid solution sprayed in the mouth every eight hours may decrease pain scores.

Xerostomia

- Major salivary glands are highly radiosensitive
- Correlated to dose of radiation – 40-50 Gy can cause permanent loss of function
- Thick or absent oral secretions, thrush, pain
- May limit oral intake to purees and/or soft, moist foods or require nutritional supplements

Xerostomia Management

- Basic oral care as for mucositis
- Adequate fluid intake
- Saliva substitutes/oral moisturizers
- Sugar-free gum or hard candies
- Humidifier
- Avoid acidic, salty or spicy foods, alcohol
- Smoking cessation

Nausea – Risk

High	Total Body Irradiation Total Nodal Irradiation
Moderate	Upper Abdomen
Low	Cranium / Craniospinal Head and Neck Lower Thorax Region Pelvis
Minimal	Extremeties Breast

Nausea – ASCO Guidelines

High	Dexamethasone 4 mg daily # 1-5 5-HT3 antagonist prior to each # and 24 hours post
Moderate	5-HT3 antagonist prior to each # +/- Dexamethasone 4 mg daily # 1-5
Low	5-HT3 antagonist alone as pre-med or rescue
Minimal	Dopamine antagonist or 5-HT3 antagonist as rescue

Diarrhea – Acute

- Usually presents 2-3 weeks after beginning
- Acute radiation damage to epithelial crypt cells -> cell death, inflammation ulceration of intestinal mucosa
- Pelvic radiation: up to 70% experience some diarrhea and 20% experience grade 3 or 4

Diarrhea – Late

- Atrophy and fibrosis of intestinal mucosa
- Vascular insufficiency due to damaged blood vessels and connective tissue in bowel wall
- Can occur 8-12 months post-treatment
- 26-49% of patients receiving pelvic RT

Diarrhea – Risk Factors

- Pt exposed to chemotherapy
- Age > 65
- Female patients (treatment fields larger)
- Malignancy proximal to or including the bowel
- Low performance status (ECOG 2 or more)

Non Pharmacologic Management

- Oral rehydration
- Low fibre diet
- Limit spicy foods, fatty/greasy foods
- Avoid alcohol and caffeine
- May need to limit dairy

Pharmacologic Management

- Loperamide 4 mg stat then 2 mg every 4 hours or following every unformed stool until diarrhea free for 12 hours
- May need to increase to 2 mg every 2 hours
- 2nd line treatment with octreotide

Pain

Pain

Common scenarios include:

- acute worsening of pain in the treatment area due to inflammation (first 1-5 days)
- Pain due to skin burns
- Pain due to radiation-induced esophagitis or mucositis after the first 2 weeks (odynophagia)

Michelle Deschamps | Presentation Handouts Pg6

Pain Management

- Pain is often a moving target needing frequent re-evaluation until 2 weeks following completion of therapy
- Flexible break-through pain medication dosing is key
- Swallowing solid dosage forms can be a problem

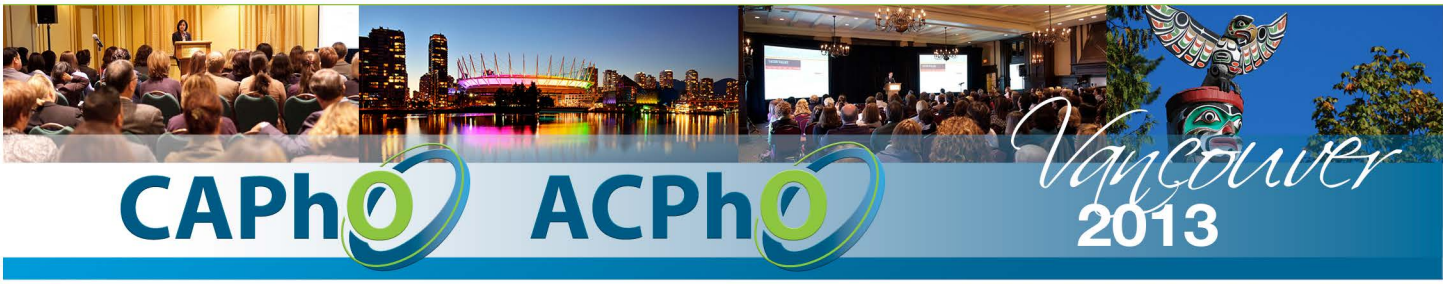
Pain Management – Continued

- Acetaminophen, NSAIDs and opioids are all commonly prescribed.
- If mucositis or esophagitis present watch for formulations containing ethanol as it can cause local irritation.

Pain Management – continued

- Proctitis secondary to pelvic radiation may be associated with painful tenesmus. Use of an antispasmodic such as hyoscine may be helpful.

Questions??



HOW OLD IS TOO OLD FOR CHEMOTHERAPY IN COLON CANCER? A GERIATRIC ONCOLOGY PERSPECTIVE

Winson Cheung
University of British Columbia, Division of Medical Oncology, Vancouver, BC
14:40 - 15:20 – Regency D/E/F, Third Floor

SATURDAY

Biography

Winson Cheung has been an assistant professor in the University of British Columbia's (UBC) Division of Medical Oncology at the BC Cancer Agency in Vancouver since 2010. Born and raised in Vancouver, he completed his medical degree at UBC, medical oncology training at the University of Toronto, and proceeded to complete further health services research training in Boston where he also obtained a Master's of Public Health degree at Harvard University. His primary interest is health services and cancer outcomes research with the aim to ensure equitable access to cancer care and enhance delivery of new therapies to all patients in BC and across Canada. He works closely with large administrative databases to answer these important clinical research questions. He is currently the Co-chair of the BC Cancer Agency GI Cancers Outcomes Research Unit. Some of his most recent research projects have focused on the emerging area of geriatric oncology, particularly studying the appropriate use of systemic therapy in elderly cancer patients. He is the recipient of numerous accolades, including the National Cancer Institute of Canada's Dorothy Lamont Award, the Novartis Oncology's Young Canadian Investigator Award, the Multinational Association of Supportive Care in Cancer's Investigator Award, and several of the American Society of Clinical Oncology's Merit Awards. Dr. Cheung publishes extensively in peer-reviewed journals and enjoys mentoring young trainees, many of whom have gone onto win prizes for research conducted under his supervision.

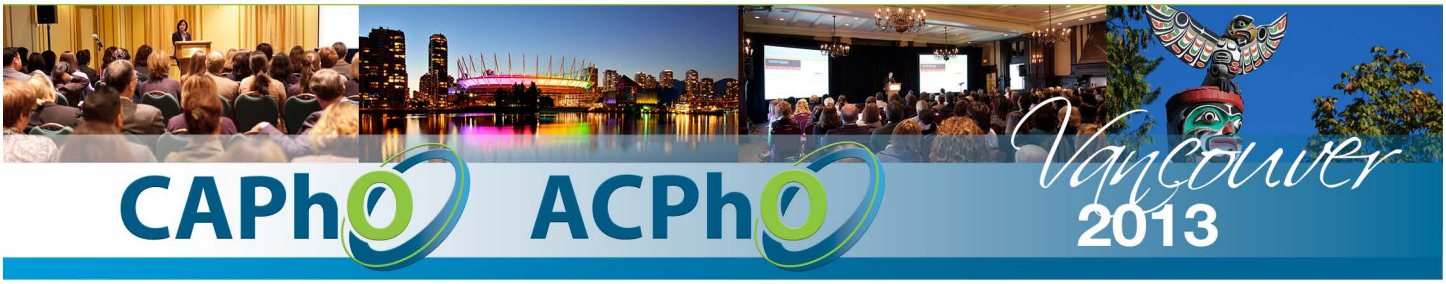
Synopsis

Learning Objectives

- Describe potential assessment tools that can be used in geriatric oncology
- Review recent analyses of the benefits and risks of chemotherapy in elderly patients with colon cancer
- Present data from the BC Cancer Agency centres that explores treatment patterns in older patients with colon cancer

Abstract

Research suggests that elderly patients with cancer are commonly undertreated, but the precise reasons for this observation are unclear. The first aim of this presentation is to describe potential assessment tools that can be used in geriatric oncology, including instruments that have been developed and validated in the general medical settings and how these measures might be successfully implemented in cancer clinics. Second, this session will review recent data on the benefits and risks of chemotherapy in elderly patients with colon cancer, particularly significant results from pooled analyses of clinical trial data as well as population-based analyses of administrative claims data. This presentation will end with highlights of past and ongoing research initiatives from the BC Cancer Agency centres that explore treatment patterns of older patients with colon cancer. Our hope is that this session will empower clinicians and the healthcare team to individualize care of geriatric patients so that we can continue to optimize their survival and quality of life from cancer.



SUBMITTING A POSTER: IT DOESN'T HAVE TO BE A PAIN

Mário de Lemos
BC Cancer Agency, Vancouver, BC
14:00 - 14:40 – Balmoral, Third Floor

SATURDAY

Biography

Mário de Lemos, BSc (Hons)(Pharm), MSc(Clin Pharm), PharmD, MSc(Oncol) is the Provincial Drug Information Coordinator at the BC Cancer Agency, Clinical Associate Professor in Pharmacy at the University of British Columbia, and Expert Reviewer for the pan-Canadian Oncology Drug Review. Mário has practised in the community and hospital settings, including as a staff pharmacist at the Ottawa Civic Hospital, the BC Cancer Agency and the Vancouver General Hospital. His area of interest is in population-based, health services research. He has led various pharmacy projects at the BC Cancer Agency which were recognized with the Canadian Society of Hospital Pharmacists (CSHP) national awards.

Synopsis

Learning Objectives

- Identify the key steps needed to convert research findings into a poster abstract for submission
- Explain how to address challenges within each step in a timely manner
- Identify the common resources needed for a poster submission

Abstract

Completing a research project is hard work and some investigators find it challenging to present their results in a timely manner as poster abstracts at conferences. However, researchers have a moral obligation to disseminate their findings, particularly if their studies were conducted at public institutions or involving patient level data. Failure to disseminate research results can expose patients to inferior interventions, maintain wasteful care delivery systems, and reduce the relevance of other studies (i.e. publication bias). Therefore, researchers need to be able to efficiently convert research findings into poster abstracts at conferences.

This presentation will share the experience of developing poster abstracts of pharmacy-led projects at the BC Cancer Agency which were successfully presented at CSHP, NOPS, ISOPP and ASCO meetings.

BC Cancer Agency

Submitting a Poster

It doesn't have to be a pain

Mário de Lemos, PharmD, MSc (Oncol)
Provincial Drug Information (druginfo@bccancer.bc.ca)
BC Cancer Agency
Vancouver, BC

BC Cancer Agency

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Disclosure

- No real or apparent conflicts of interest

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Objectives

- Identify steps to convert results to poster
- Address challenges within each step
- Identify resources needed

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Who submits a poster?

- You enjoy it
- You want to
  - To attend conference
  - Important findings
- You have to
  - Student/resident project
  - Grant requirement
  - **Moral obligation**

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Outline

- Draft report
- Identify audience
- Submit abstract
- Make
  - Slides
  - Poster
- Resources

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Draft report

- Proposal plus
  - Results
  - Discussion (including Limitations)
  - Conclusion
- Critique
- Counter critique

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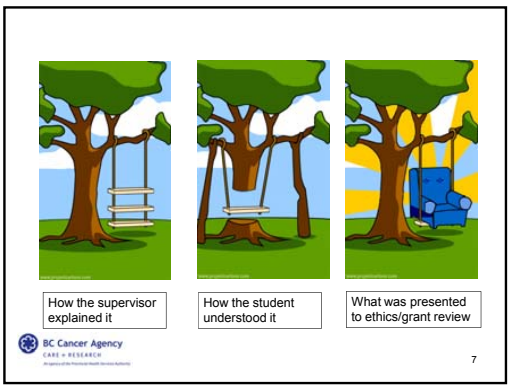

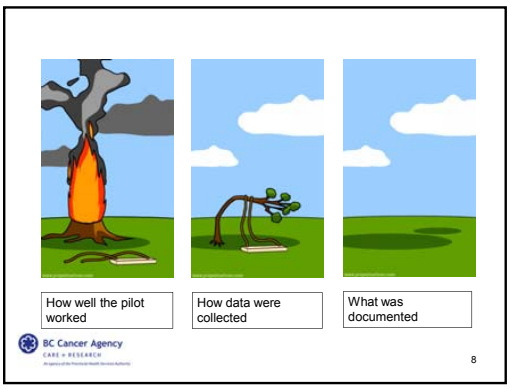

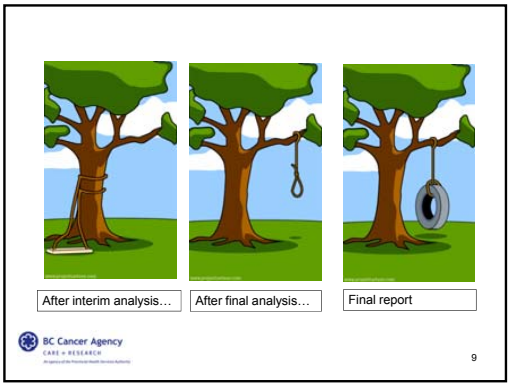

Draft report (cf. Proposal)

- Background – what is known
  - Important
    - timely, common, serious outcomes
- Methods – definitions (assumptions)
  - Population (study site, scope)
  - Intervention
  - Outcome measured (what, how)
  - Analysis: define "significance"
    - e.g., renal failure incidence: bad if > 15%

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Draft report

- Results – mirror Methods
  - How much was done as planned
  - Outcome (e.g. renal failure >, = or < 15%)
  - Further analysis
- Discussion
  - What we found
  - Why findings are unique
  - Findings confirmed others
  - Findings differed from others…significant?

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Draft report

- Limitations – mirror assumptions
  - Alternative explanations for results
    - Significant?
  - Future studies
- Conclusions
  - Key findings and implications

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Mário de Lemos | Presentation Handouts Pg3

Draft report

- Critique and counter critique – BMJ booklets
  - How to write a grant application
  - How to read a paper
- Format for other types of projects
  - Practice http://squire-statement.org/guidelines/
  - Qualitative www.biomedcentral.com/authors/rats

BC Cancer Agency CARE + RESEARCH

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Audience

- Impact on pharmacy practice
  - Hospital pharmacy (CSHP, NOPS, ISOPP)
  - General vs. oncology
  - Canadian vs. US vs. international
- Multidisciplinary collaboration
  - ASCO, MASCC
- Outcome research
  - ASCO, medical conferences

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Abstract

- Deadline = focus
- Follow instructions
- Word limit

Abbreviate	*Metastatic breast cancer*	*MBC*
Definitive article	*The major outcomes were…*	*Major outcomes were…*
Noun as adjective	*Toxicity of taxane is…*	*Taxane toxicity…*
Jargons	*Dosing used for renal failure*	*Renal dosing*

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Abstract

- Title – type of study and outcome
  - *Renal Safety with Renedronate Rapid Infusion for Metastatic Breast Cancer: a Multi-Centred, Population-Based Analysis*
- Background, Methods
  - use study report
- Results – key findings
  - Tabulate
  - Comment
    - *Rapid infusion not associated with significant renal failure*
- Conclusions

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Slides

- Required
  - ASCO
  - presentations
- Outline before typing
  - Use draft report
  - Target audience
- Provides
  - Logical narrative, proportions
  - Key points in bullets
  - Handout

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Poster

- Follow instructions
- Readable…from a distance
  - Different from submitted abstract
  - Bullets or full sentences
  - Less abbreviations
- Abstract and body text
  - Use draft report
  - Target audience
- Handout – from slides
  - Business card

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Resources

- Virtually free
- Time
  - Draft report
  - Multiple authors
- Cost
  - Full poster costly
  - Fabric poster
  - Handouts

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Summary

- Convert results to poster

Steps	Challenges
Draft report	*Critique, counter critique*
Target audience	*Pharmacy, multidisciplinary, outcome*
Submit abstract	*Deadline, word limit, comment results*
Slides	*Outline before typing*
Poster	*Readable*

- Resources – time
  - Cost: poster, tube, handouts

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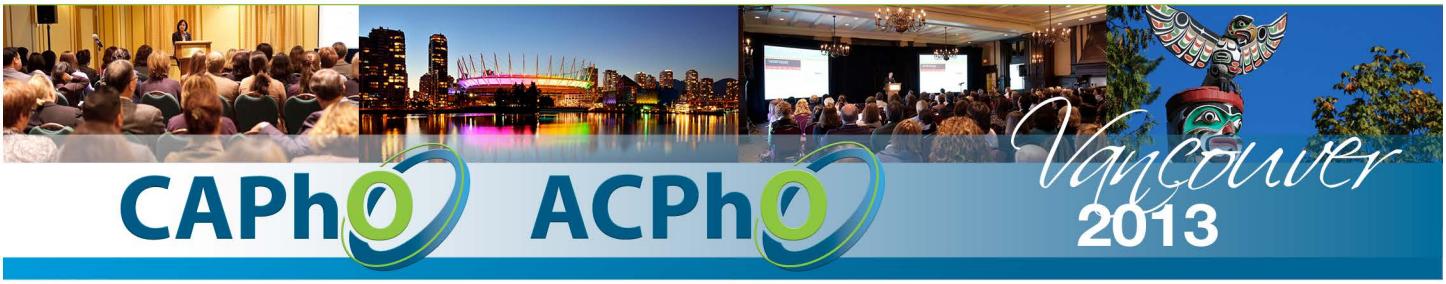

UNDERSTANDING THE 2014 ACCREDITATION CANADA MEDICATION MANAGEMENT STANDARDS

Paul Filiatrault
Interior Health, Kelowna, BC
14:40 - 15:20 – Balmoral, Third Floor

SATURDAY

Biography

Paul Filiatrault graduated from the Faculty of Pharmaceutical Sciences at the University of British Columbia. He is a member of the Canadian Society of Hospital Pharmacists, a preceptor for the Interior Health Hospital Pharmacist Residency Program and a reviewer for the Canadian Journal of Hospital Pharmacy. Paul has worked in the hospital setting for 30 years. He has been the Regional Manager, Medication Safety, Pharmacy Services since 2005 and has been a surveyor with Accreditation Canada since 2008. Paul and his wife Melanie have been foster parents for over 20 years and are recipients of Honorary Life Memberships from the BC Federation of Foster Parents.

Synopsis

Learning Objectives

- Discuss a number of current challenges related to medication use
- Gain an understanding of the role of human factors in medication system safety
- Highlight some of the changes that are incorporated into the January 2014 standards

Abstract

In 2008, the Canadian Council on Health Services Accreditation (CCHSA) became Accreditation Canada and launched the new Qmentum Accreditation Program with its enhanced focus on quality improvement and patient safety. Prior to implementation of the new program, pharmacy departments were often ignored by CCHSA surveyors. That has changed and now the spotlight is on medication use. The 2014 Medication Management Standards, the largest set of any other Qmentum Program standards, promote a collaborative approach to prevent and reduce medication errors and near misses.

Understanding The 2014 Accreditation Canada Medication Management Standards

Paul Filiatrault, BScPharm, RPh, RPEBC
Regional Manager, Medication Safety
Pharmacy Services, Interior Health
Kelowna, BC

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Chemotherapy… Mindset

"Read the instructions very, very, very carefully."

- "All substances are poisons. There is none which is not a poison. The **right dose** differentiates a poison from a remedy."
- Paracelsus [1493-1541]

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Objectives

- Background
  - Medications: the other 'drug problem'
  - Medication-induced illness
- Adverse events
  - The human element
- Medication Standards 2014
  - ROPs
  - High priority criteria
  - Other standards

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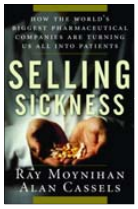
Turning Healthy People into Patients

- Thirty years ago, Henry Gadsden, CEO of Merck, lamented to Fortune magazine that his market was limited to people with illnesses.
- It had long been his dream to make drugs for **healthy people** so that Merck could "sell to everyone."



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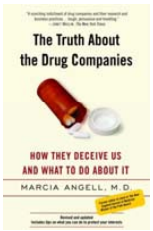
The Truth About the Drug Companies



- "The medical profession has largely abdicated its responsibility to educate medical students and doctors in the use of prescription drugs."
- Marcia Angell, M.D.
- Former editor-in-chief of the New England Medical Journal

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Canadians Love Their Sleeping Pills*

- Use jumped 28% to 20 million dispensed Rx's per year from 2006 to 2011.
  - typical Rx: for 30 days x 6-12 refills.
- 51% dependent on these showed signs of:
  - cognitive impairment
  - acquired intellectual deterioration
    - may become permanent
- Increases the risk of an early death. *NEW RESEARCH*
- "People who start taking these should be told they may end up in a long-term medical adventure!"

* Ottawa Citizen, July 13, 2012

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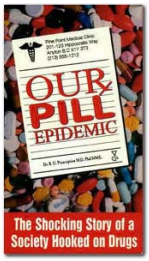
Creation of Drug-Induced Illness

- 40% of dead drivers in fatal car accidents have prescription medications in their body.
- 12% of patients rushed to Emergency at Vancouver General Hospital because of adverse reaction to medications. *



*Zed, P et al. CMAJ 2008

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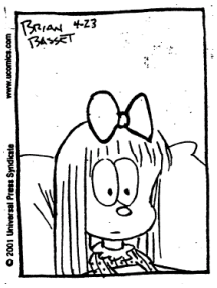

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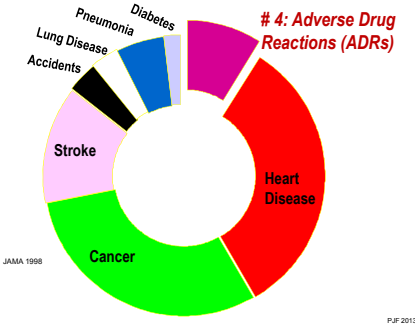
Causes of Death in Hospitals



Lazarou , J et al. JAMA 1998

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- **Prescribed to Death**

ADRs, not just age and disease, are killing 3,300 Canadian seniors every year.

CBC News Online, April 10, 2005

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Principles of Conservative Prescribing

- Seek non-drug alternatives first
- Learn a few drugs and use them well
- Start with only 1 drug whenever possible
- Have a high index of suspicion for ADRs
- Avoid frequent switching to new drugs
- Do not rush to use newly marketed drugs
  - 5-10 year 'rule' for all ADRs to appear
- Learn about new drugs from trustworthy, unbiased sources

Archives Internal Medicine, June 13, 2011

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Objectives

- Background
  - Medications: the other 'drug problem'
  - Medication-induced illness
- Adverse events
  - The human element
- Medication Standards 2014
  - ROPs
  - High priority criteria
  - Other standards

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Canadian Adverse Events Study

- 9,250 – 23,750 Canadians die every year due to avoidable medical errors
- Medications and IV fluids are the 2nd highest cause of death (24%)

Perspective: The annual death toll due to avoidable drug errors in hospitals equals that of an "Air India type-disaster" happening every 28-73 days in Canada.

Baker GR, Norton P et al. CMAJ May 25, 2004

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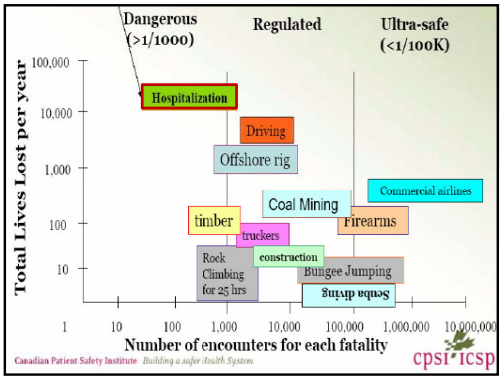

Human Errors Happen

- Chloral hydrate – wrong drug – fatal*
- Oral medications – wrong patient – fatal*
- Fentanyl patch – wrong dose – fatal
- SC Insulin – wrong patient – fatal
- IV HYDROmorphone – 100x overdose – rescued
- IV 5-FU – overdose – 'intercepted'

* residential care setting

Blake

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5-FU Overdose

- Order: fluorouracil (5-FU) 1,000 mg/m²/day x BSA x 75% = 1,500 mg/day for 4 days (total dose = 6,000 mg over 96 h) IV in D5W to a total volume of 192 mL by continuous infusion at 2 mL/h via Baxter LV2 infusor.
- Dose was loaded into a LV5 Baxter infusor.
- Nurse 'caught' the error prior to administration.
- Patient would have received 6 g over 38 hours instead of 4 days.

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5-FU Overdose Contributing Factors

- Look-a-like infusors
- Location of infusor storage bins
- Inconsistent content of storage bin labels
- Lack of critical information on storage bin labels
- Failure to detect wrong infusor during double-check
- Chemotherapy workload
- Patient scheduling
- Distractions on unit

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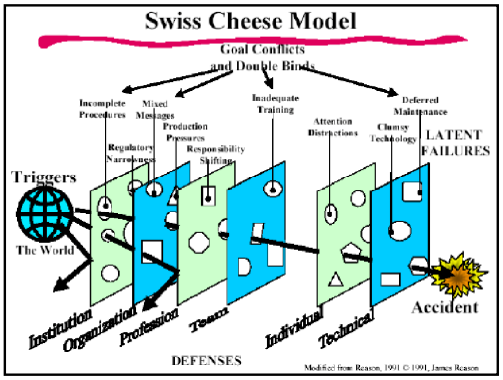

Human factors?

- **"But... did the nurse read the label?"**

- Aoccdrnig to rscheearch at Cmabrigde Uinervtisy, it deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoent tihng is that the frist and lsat ltteer be at the rghit pclae.
- The rset can be a tatol mses and you can sitll raed it wouthit a porbelm.
- This is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe.
- Amzanig huh?

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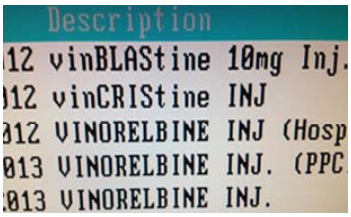
Examples - Human Factors



- vinBLAStine inadvertently selected for vinCRIStine

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Examples - Human Factors

- Boeing 737 ceiling
- Call button inadvertently gets pushed for reading light. Why?

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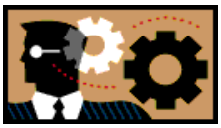
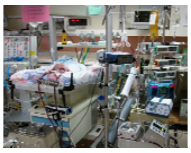
"To Err is Human"

Institute of Medicine Report *

"We cannot change the human condition, but we can **change the conditions** under which humans work."
James Reason





*Report. Nov 1999 www.iom.edu

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'Brain Flip' Needed in Health Care

Health Care Mindset

- Humans generally perform flawlessly
- Perfect performance is the expectation
- Errors are the result of human failures
- Use re-training, and punishment to root out 'bad apples'

David U, CEO, ISMP Canada June 2008

- **Engineering Mindset**
- Don't expect humans to perform perfectly or without variation
- Begin with premise that **anything can and will go wrong**.
- Design systems accordingly
- Be proactive – think / ask: "what could go wrong with this?"

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Rank Order
Error Reduction Strategies*

1. Forcing functions and constraints
2. Automation and computerization
3. Standardization and protocols
4. Checklists and double-check systems
5. Rules and policies
6. Education and information
7. "Just be more careful"

Most Effective

Least Effective

* Institute for Safe Medication Practices (ISMP)

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Objectives

- Background
  - Medications: the other 'drug problem'
  - Medication-induced illness
- Adverse events
  - The human element
- Medication Standards 2014
  - History
  - ROPS & High priority criteria
  - Other standards

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History

- 2008 - Qmentum launched
  - Experience identified opportunities for improvement.
- 2008 - 2012: Feedback from:
  - Organizations
  - Surveyors
- Need for clarity
  - Open to interpretation.
  - Inconsistency in ratings.
- Surveyors challenged to ensure all criteria addressed.

"Now, now, ... What's all this I hear about you not wanting to come into my nice hospital."

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History (cont'd)

- 2012 - Working group organized.
  - Hospital pharmacists, including surveyors
  - CSHP representative
  - ISMP Canada representative
- Multiple meetings (in person; teleconference)
- Identified needs:
  - Restructure of the format
  - Increase clarity of standards
  - Make criteria transparent to clients and surveyors
- 2013 - Revised MM standards published.

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2014 Standards - Highlights

- Changes in order to improve 'flow'
- New ROP: High-Alert medications
- Three 'downgraded' ROPs:
  - Standardizes and limits the number of medication concentrations available.
  - Use of at least two client identifiers before administering medications.
  - Ongoing, effective training on infusion pumps.
- Overall increase in number of standards to 172

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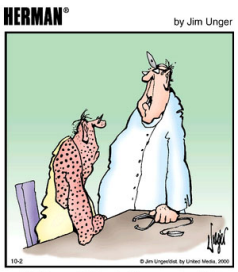
ROPs



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Antimicrobial Stewardship

- Applies to acute care services, including cancer, rehab and complex continuing care.
- Interdisciplinary - Who leads?
- Lines of accountability.
- Program evaluations.

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High-Alert Medications *new*

- Extensive policy needed
- Major criteria include:
  - ✓List of identified high-alert meds
  - ✓Procedures for each medication drug
  - ✓Limits for concentrations AND volume options
  - ✓Ongoing training for staff
- Minor criteria:
  - ✓Name of individuals responsible
  - ✓Regular audits of client service areas
  - ✓Mechanism to update

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Heparin Products

- Major changes now include:
  - ✓Requirement for **annual** audits *new*
  - ✓Multi-dose vials of LMWH only in critical care areas
  - ✓Heparin 10,000 unit/mL and therapeutic heparin IV infusion to be dispensed **patient specific** from pharmacy *new*
  - ✓Exceptions require approval of interdisciplinary committee *new*

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Narcotic Products

•Annual audits now required
- Fentanyl > 100 mcg *new*
- HYDROmorphone > 2 mg *change*
- Morphine > 15 mg in adult areas
- Morphine > 2 mg in pediatric areas *new*

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Concentrated Electrolytes

- Annual audits now required for:
  - Calcium concentrations equal to or > 10% *new*
  - Magnesium concentrations > 20% *new*
  - **All** potassium > 2 mmoL/mL *change*
  - Sodium acetate equal to or > 4 mmoL/mL *new*
  - Sodium phosphate equal to or > 4 mmoL/mL *new*
  - Sodium chloride concentrations > 0.9%

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Do Not Use Abbreviations

•No changes for 2014
•Challenging for organizations without CPOE:
- audits of medication orders (often manual)
- implementation of process changes to gain compliance of medical staff

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High Priority Criteria

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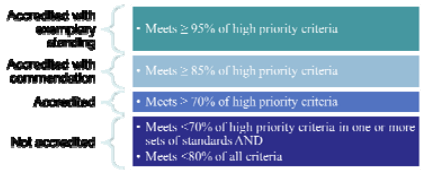
Accreditation Decision Guidelines (2012)

IMPACT OF HIGH PRIORITY CRITERIA



Planning the Medication System

- Interdisciplinary committee -
  - 1.1 Has defined roles and responsibilities in line with legislation and regulations. *new*
  - 1.2 Includes representatives from a variety of teams involved in medication management. *new*
  - 2.6 Has a process to manage abuse and diversion of controlled substances. *new*

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Accessing Client and Medication Information

- CPOE + Pharmacy Computer System *new*
- 7/8.1 Includes, at a minimum, alerts for drug interactions, drug allergies, and min/max doses for high-alert medications.
- 7/8.2 Has a policy for when and how to override alerts.
- 7/8.3 Has a process to regularly update the medication information.
- 7/8.4 Regularly tested to ensure alerts are working.
- 7/8.5 Manages alert fatigue by regularly evaluating type of alerts required, etc.

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Selecting & Procuring Medications

- 9.6 The pharmacy has a process to retrieve medications that have been formally recalled or discontinued by Health Canada or manufacturer. *new*
- Smart Infusion Pumps *new*
- 11.1 Soft and hard dose limits for high-alert medications.
- 11.2 Policy for when and how to override alerts.
- 11.3 Process to regularly update the medication information.
- 11.4 Limits set for soft and and hard doses to make sure they are working.

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Storing Medications

- 12.7 Stores expired, damaged and contaminated medications, as well as those discontinued or recalled by the manufacturer **away from medications** in current use in the pharmacy and client service areas, pending removal. *new*
- 13.3 Stores chemotherapy medications in a **separate negative pressure room** with adequate ventilation segregated from other supplies. *new*

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Prescribing and Ordering Medications

- 14.4 Organization uses disease-specific protocols for chemotherapy orders. *new*
- 14.8 Have a process to ensure that medication orders are transcribed accurately. *new*

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Preparing Medications

- Pharmacist
- 15.4 Contacts the prescriber if there are concerns or changes required with a medication order and **documents the results of the discussion** in the client record. *new*
- 15.5 There is a process for the pharmacist, nurse and prescriber to follow if there is a **disagreement** regarding a medication order. *new*

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Administering Medications & Client Monitoring

- 24.1 Medication-specific guidelines for monitoring clients. *new*
- 24.3 Staff and service providers monitor clients for possible adverse drug events. *new*
- 24.4 Alarms for potential adverse drug events are turned on at all times. *new*

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Other Standards *new*

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Planning the Medication Management System

- The Interdisciplinary Committee
- 2.8 Standardizes critical information found in medication orders, labels and MARs. *new*
- 2.12 Develops a process for using medications in an emergency in line with Health Canada's Special Access Program. *new*

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Training & Competency Evaluation

•4.4 The organization evaluates the effectiveness of its training activities for medication management and makes improvements as needed.*new*

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Selecting & Procuring Medications

- Smart Infusion Pumps
- 11.5 Regular review of the soft and hard limits and make changes as required. *new*

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Preparing Medications

•16.2 Maintains appropriate ventilation, temperature, and lighting in the medication preparation areas. *new*

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Labeling and Packaging Medications

- 18.4 If using automated dispensing cabinets, it ensures processes are in place that address access, location, type of medication information available, and verification and restocking of medications. *new*
- 18.5 Automated dispensing cabinets are equipped with a profiling system. *new*

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Administering Medications and Client Monitoring

- Self-Administration by Clients
- 22.1 Need a process for determining which medications can be self-administered by clients. *new*
- 22.3 Have a process for storing medications that are self-administered by clients. *new*

PJF 2013

Evaluating the Medication Management System

- 26.1 Must inform staff and service providers on the value of reporting ADRs to Health Canada specifically unexpected or serious reactions to recently marketed medications. *new*
- 26.3 Organization takes appropriate actions in response to alerts from Health Canada and other organizations regarding ADRs. *new*

PJF 2013

Evaluating the Medication Management System

- External Providers
- 27.2 Organization establishes and maintains a contract that requires consistent levels of quality and adherence to accepted standards of practice.*new*
- 27.3 Organization regularly monitors the quality of services provided. *new*

PJF 2013

PJF 2013

PJF 2013

PJF 2013

Paul Filiatrault | Presentation Handouts Pg11

Training & Competency Evaluation

- 4.1 Provide initial and ongoing training to staff and service providers based on their roles and responsibilities for medication management within their scope of practice. *change*
- 4.2 Provide training on a new medication **before** it is used. *change*
- 4.3 Train staff and service providers to **recognize, prevent, respond** to and report medication errors and near misses. *change*

PJF 2013

Accessing Client and Medication Information

- Provide staff and service providers with access to:
- 6.2 Information on high alert medications including current protocols, guidelines, dosing recommendations, checklists, and standard order sets. *change*
- 6.3 Accurate, standard, and up-to-date medication information specific to the populations served. *change*

PJF 2013

Storing Medications

- 13.4 Stores anesthetic gases and volatile liquid anesthetic agents in an area with adequate ventilation as **per the manufacturer's instructions**. *change*

PJF 2013

Preparing Medications

- 16.3 Separate **negative pressure** area with a 100% externally-vented biohazard hood for preparing chemotherapy. *change*
- 16.5 Pharmacy team **avoids direct contact** with the medication during preparation. *change*

PJF 2013

Preparing Medications

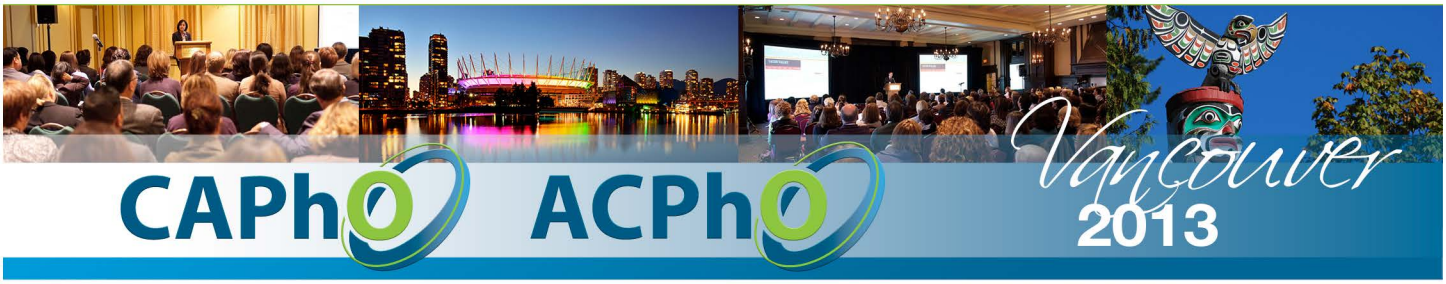
- Pharmacist
- 15.2 Double checks the dosing calculations of weight-based protocols for **pediatric** patients. *change*
- 15.3 Double checks the dosing calculations for **chemotherapy** according to weight or body surface area. *change*

PJF 2013

Dispensing & Delivering Medications

- 18.2 Dispense medications in unit dose packaging. *change*

PJF 2013



SUBSEQUENT ENTRY BIOLOGICS

SATURDAY

Leigh Revers
University of Toronto, Toronto, ON
15:50 - 16:35 – Oxford/Prince of Wales, Third Floor

Biography

Leigh Revers is Senior Lecturer in Biotechnology and Associate Director of the Master of Biotechnology (MBiotech) Program at the University of Toronto. His background is in biotechnology entrepreneurship, coupled with over 20 years' experience in the life sciences. Trained as a chemist, he came to Canada to work at Toronto's Hospital for Sick Children. Later, he joined Dr. Jean Gariépy's research team, which led to his co-founding Molecular Templates Inc., a cancer therapeutics start-up, now based in Texas. In 2006, he joined the MBiotech Program as Assistant Director and shortly afterwards co-founded D5Pharma Inc., a new company developing aptamer technologies. He holds Bachelor's, Master's, and Doctoral degrees from the University of Oxford.

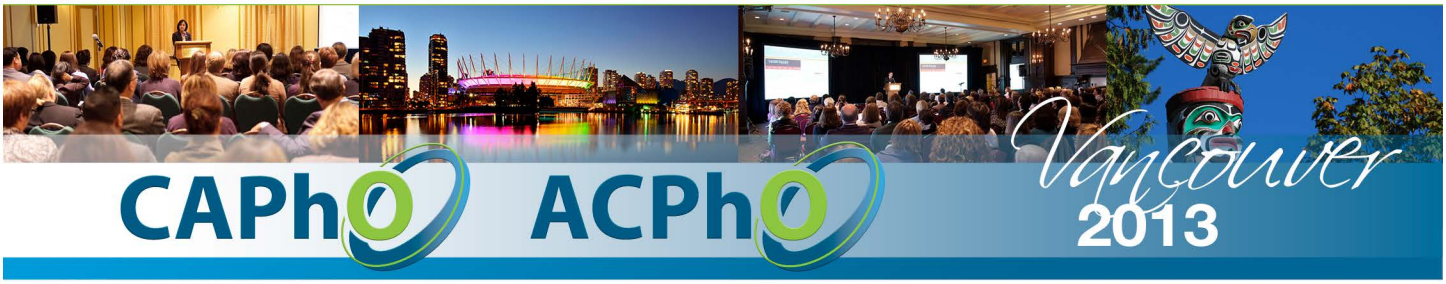
Synopsis

Learning Objectives

- Introducing the concept of biologic and biosimilar pharmaceutical products
- Delineating the differences between these and conventional, small-molecule drugs
- Illustrating the structural and mechanistic complexities of biologic medicines
- Outlining the manufacturing process for biologics and its sensitivity to process change

Abstract

This presentation provides an overview of biologic medicines, including the history of their development, and a definition for the term 'biologic'. In particular, the increased complexity of these drugs in comparison to conventional small molecule drugs is addressed, with a focus on the exceptional complexity of therapeutic monoclonal antibodies. The concept of 'biosimilarity' is also introduced, the differing terminologies used by various agencies are defined, and the critical differences between biosimilar and generic products are explained. A brief overview of the manufacturing process of biologics and the clinical implications are presented.



THINKING OUTSIDE THE BOX – APPROACH TO ADDRESSING THE TOP NON-TRADITIONAL DRUG INFORMATION QUESTIONS

Sally Waignein
BC Cancer Agency, Vancouver, BC
15:50 - 16:35 – Regency D/E/F, Third Floor

SATURDAY

Biography

Sally Waignein is the Provincial Pharmacy Education Coordinator at the BC Cancer Agency. She received her BSc (Biology) from Queen's University in 2002 and her BSc (Pharm) from the University of British Columbia (UBC) in 2006. Thereafter, she completed a hospital residency followed by a Doctor of Pharmacy degree at UBC. In 2010, Sally joined the BC Cancer Agency to develop and implement the Pharmacy Practice Residency Program. Her role also involves coordinating BCCA Pharmacy education, and working in Provincial Drug Information and the ambulatory breast cancer clinics.

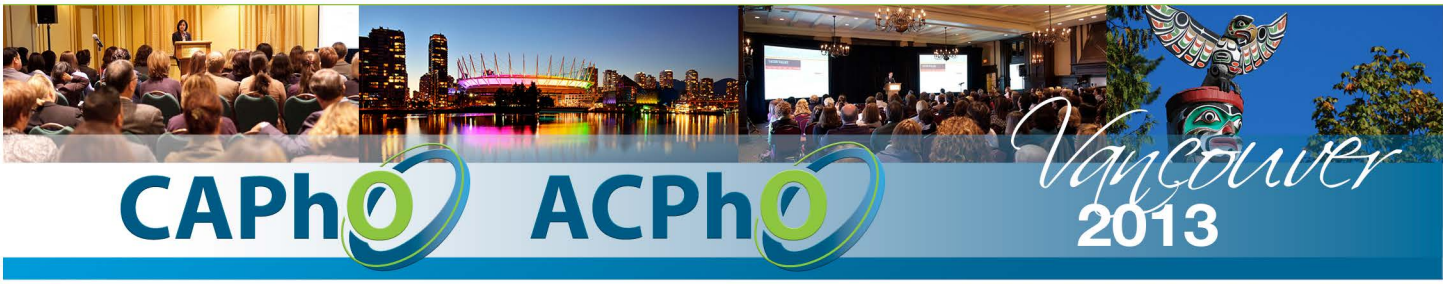
Synopsis

Learning Objectives

- Identify a systematic approach to effectively manage a drug shortage issue
- Describe ways to address a drug shortage issue when no viable alternatives are available
- Effectively evaluate drug interactions between chemotherapy agents and common antioxidants

Abstract

The scope of drug information services has evolved significantly over the last decade. With the availability of information technology in almost all health care institutions, traditional drug information questions are now largely replaced by clinical consultations and unique medication management issues. During this program, we shall share the top three unique drug information questions at the BC Cancer Agency Provincial Drug Information Services, and discuss its approach to resolving these unique issues.



NOCs IN 2013 (SINCE LAST NOPS)

Colleen Olson
Saskatoon Cancer Centre Pharmacy, Saskatoon, SK
15:50 - 16:35 – Balmoral, Third Floor

SATURDAY

Biography

Colleen Olson graduated from the University of Saskatchewan with a Bachelor of Arts in Psychology and a Bachelor of Science in Pharmacy. In the past, she has practiced in both community and hospital pharmacy. She is currently a senior pharmacist with the Saskatoon Cancer Centre where she is involved in clinical trials and drug access programs. Colleen also teaches undergraduate classes at the University of Saskatchewan's College of Pharmacy in the area of Oncology. She is a member of the National Cancer Institute of Canada Clinical Trials Group (NCIC CTG) with the lung disease site group. On a personal level, she is married, with one adult son, one dog, and one husband. She enjoys spending her free time at her cabin at Emma Lake in Saskatchewan lake country.

Synopsis

Learning Objectives

- Review all Notice of Compliances that Health Canada has issued for an oncology indication since the last NOPS meeting in October 2012
- Discuss how to include an existing drug with a new indication, or a new drug to the Canadian market
- Discuss the labeled indication and briefly cover its place in therapy
- The discussion will not cover cost or funding issues

Abstract

This past year, Health Canada granted regulatory approval for a number of agents for use in oncology patients in Canada. Some of the approvals are for agents that are new to the Canadian market, and some are new indications for existing agents. This presentation will discuss the agents that have been granted a Notice of Compliance for an oncology indication from November 2012 through to October 2013. A brief overview of the agent including indication and mechanism of action will be reviewed. Funding and drug coverage across Canada of the various agents will not be covered.

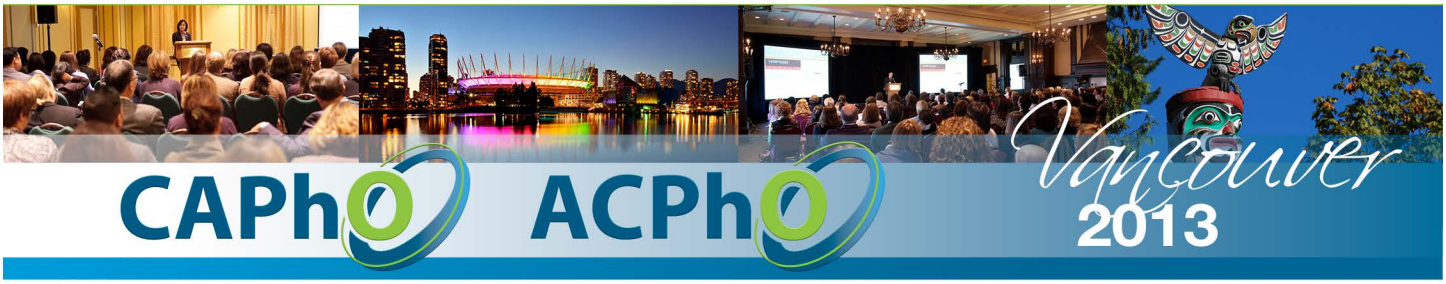
Agents for discussion:

New NOCs

Brentuximab Vedotin
Trastuzumab Emtansine
Vismodegib
Pertuzumab
Regorafenib
Dabrafenib
Trametinib
Enzalutamide
Arsenic Trioxide

New Indications:

Abiraterone
Everolimus
Cetuximab
Pemetrexed



NEW NOCs IN ONCOLOGY SINCE NOPS 2012

Colleen Olson BA;BSP
Senior Pharmacist
Saskatoon Cancer Centre

OVERVIEW

- Review recent drug submissions that have been approved by Health Canada for oncology indications
- Notice of Compliance (NOC) or (NOC/c)
- **NEW DRUG** to the Canadian market
- Supplement to a New Drug Submission (SNDS)
- **NEW INDICATION** for an existing drug on the Canadian market

DRUGS TO DISCUSS

NEW DRUGS

1. Brentuximab Vedotin
2. Trastuzumab Emtansine
3. Vismodegib
4. Pertuzumab
5. Regorafenib
6. Dabrafenib
7. Trametinib
8. Enzalutamide
9. Arsenic Trioxide

NEW INDICATIONS

1. Abiraterone
2. Everolimus
3. Cetuximab
4. Pemetrexed

BRENTUXIMAB VEDOTIN (ADCETRIS®)

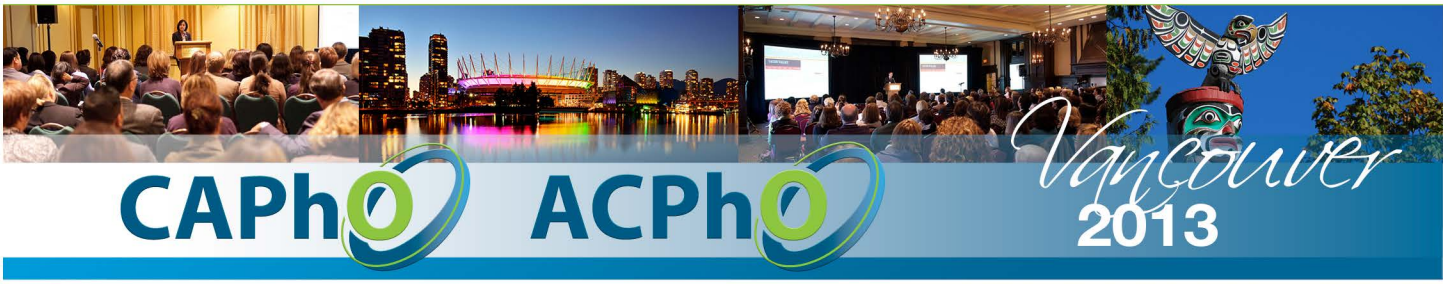
- NOC/c Date February 1, 2013
- 50 mg/vial for injection
- Indications:
  - The treatment of patients with Hodgkin lymphoma (HL) after failure of autologous stem cell transplant (ASCT) or after failure of at least two multi-agent chemotherapy regimens in patients who are not ASCT candidates;
  - The treatment of patients with systemic anaplastic large cell lymphoma (sALCL) after failure of at least one multi-agent chemotherapy regimen.

BRENTUXIMAB VEDOTIN (ADCETRIS®)

- chimeric monoclonal antibody
- targets the cell membrane protein CD30 and is linked to the cytotoxic monomethyl auristatin E.1
- Dose brentuximab is 1.8 mg/kg IV infusion over 30 minutes every 3 weeks

TRASTUZUMAB EMTANSINE (KADCYLA®)

- NOC September 11, 2013
- AKA: TDM-1
- 3.6 mg/kg IV q3w until disease progression or unacceptable toxicity
- Indications:
  - HER2-positive, unresectable locally advanced or metastatic breast cancer who have received prior treatment with trastuzumab and a taxane



TRASTUZUMAB EMTANSINE (KADCYLA®)

- Mechanism of Action:
- antibody drug conjugate which incorporates the HER2 targeted actions of trastuzumab with the microtubule inhibitor DM1 (a maytansine derivative). The conjugate, which is linked via a stable thioether linker, allows for selective delivery into HER2 overexpressing cells, resulting in cell cycle arrest and apoptosis.

VISMODEGIB (ERIVEDGE®)

- NOC Date July 12, 2013
- Capsule Dose: 150mg PO once daily
- Indication:
  - Metastatic or locally advanced basal cell carcinoma inappropriate for surgery or radiotherapy

VISMODEGIB (ERIVEDGE®)

- Mechanism of Action:
- selective Hedgehog pathway inhibitor which binds to and inhibits Smoothened homologue (SMO), the transmembrane protein involved in Hedgehog signal transduction

VISMODEGIB (ERIVEDGE®)

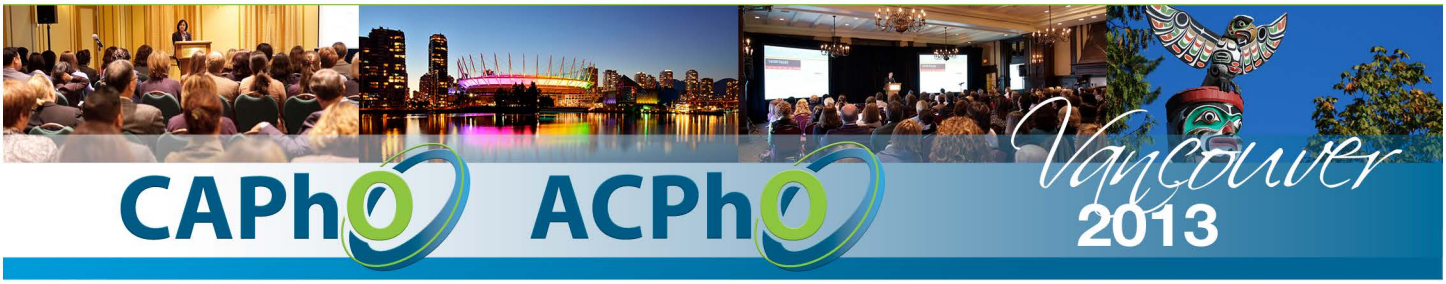
- Erivedge is only available through a controlled distribution program called the Erivedge Pregnancy Prevention Program (EPPP). Under this program, only prescribers and pharmacies registered with the program are able to prescribe and dispense the product, respectively. In addition, Erivedge can only be dispensed to patients who are registered and meet all the conditions of the EPPP.

PERTUZUMAB (PERJETA®)

- NOC Date April 12, 2013
- 420mg/vial for injection
- Indication:
  - In combination with trastuzumab and a taxane for the treatment of patients with HER2-positive metastatic breast cancer who have not received prior anti-HER2 therapy or chemotherapy for metastatic disease

PERTUZUMAB (PERJETA®)

- Mechanism of Action:
- recombinant humanized monoclonal antibody that binds to the HER2 dimerization domain, preventing dimerizaton of HER2 with other HER receptors (HER3, HER1, and HER4), especially HER3



REGORAFENIB (STIVARGA®)

- NOC Date March 11, 2013
- Oral tablet 160mg PO OD for 21 days/28 days
- Indication:
  - mCRC who have been previously treated with fluoropyrimidine-based chemotherapy, oxaplatin, irinotecan, an anti-VEGF therapy, and, if KRAS wild type, an anti-EGFR therapy

REGORAFENIB (STIVARGA®)

- Mechanism of Action:
- Multi **kinase inhibitor**
- inhibits VEGF receptors 1-3, KIT, PDGFR-alpha, PDGFR-beta, RET, FGFR1 and 2, TIE2, DDR2, TrkA, Eph2A, RAF-1. BRAF, $BRAF^{V600E}$, SAPK2, PTK5, and Abl.

DABRAFENIB (TAFINLAR®)

- NOC Date July 16, 2013
- Oral capsule 150mg PO BID
- Indications:
  - For use as monotherapy for the treatment of patients with unresectable or metastatic melanoma, with a BRAF V600 mutation

DABRAFENIB (TAFINLAR®)

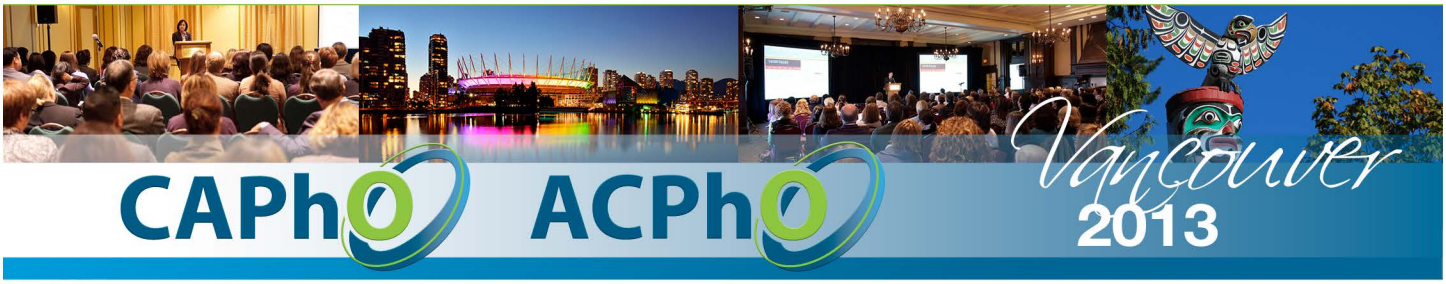
- Mechanism of Action:
- Selectively **inhibits** some mutated forms of the **protein kinase** B-raf (BRAF)
- $BRAF^{V600E}$ mutations result in constitutive activation of the BRAF pathway

TRAMETINIB (MEKINIST®)

- NOC Date July 18, 2013
- Oral capsule 2mg PO once daily
- Indication:
  - For use as a monotherapy for the treatment of patients with unresectable or metastatic melanoma with a BRAF V600 mutation

TRAMETINIB (MEKINIST®)

- Mechanism of Action:
- Reversibly and selectively **inhibits** mitogen-activated extracellular **kinase** (MEK) 1 and 2 activation and kinase activity
- MEK is a downstream effector of the protein kinase B-raf (BRAF); $BRAF^{V600}$ mutations result in constitutive activation of the BRAF pathway (including MEK1 and MEK2)



ENZALUTAMIDE (XTANDI®)

- NOC Date May 29, 2013
- Oral capsule 160mg once daily
- Indication:
  - For the treatment of patients with metastatic castration-resistant prostate cancer, who have previously received docetaxel therapy

ENZALUTAMIDE (XTANDI®)

- Mechanism of Action:
- pure androgen receptor signaling inhibitor; unlike other antiandrogen therapies, it has no known agonistic properties
- inhibits androgen receptor nuclear translocation, DNA binding, and coactivator mobilization, leading to cellular apoptosis and decreased prostate tumor volume

ARSENIC TRIOXIDE (TRISENOX®)

- NOC Date June 7, 2013
- IV dosage
- For patients who were refractory to or relapsed from previous treatment and newly diagnosed Acute Promyelocytic Leukemia (APL) patients who have received no prior treatment

ARSENIC TRIOXIDE (TRISENOX®)

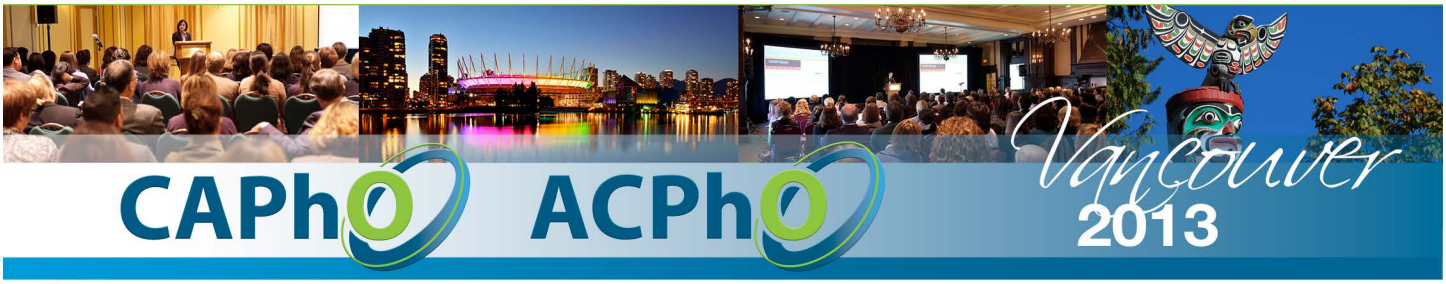
- Mechansim of Action:
- Induces apoptosis in APL cells via morphological changes and DNA fragmentation; also damages or degrades the fusion protein PML-RAR alpha

Supplement to a New Drug Submission (SNDS)

NEW INDICATION for an existing drug on the Canadian market

ABIRATERONE ACETATE (ZYTIGA®)

- NOC Date May 28, 2013
- Oral tablets 1000mg once daily
- For asymptomatic or mildly symptomatic metastatic castration-resistant prostate cancer (mCRPC) patients after failure of ADT (have NOT received prior chemotherapy)
- Existing indication: mCRPC who HAD received previous docetaxel chemo (NOC July 2011)



ABIRATERONE ACETATE (ZYTIGA®)

- Mechanism of Action:
- Selectively and irreversibly inhibits CYP17 (17 alpha-hydroxylase/C17,20-lyase)
- enzyme required for androgen biosynthesis which is expressed in testicular, adrenal, and prostatic tumor tissues
- Inhibits formation of the testosterone precursors dehydroepiandrosterone (DHEA) and androstenedione

EVEROLIMUS (AFINITOR®)

- NOC Date January 10, 2013
- Oral capsule 10mg once daily in combination with exemestane 25mg
- in postmenopausal women with HR+, HER2- advanced breast cancer after treatment failure with letrozole or anastrozole

EVEROLIMUS (AFINITOR®)

- Existing indications:
- Dec 2009: 2nd line metastatic renal cell after treatment with a VEGF sunitinb or sorafenib
- Feb 2012: neuroendocrine tumours of pancreatic origin (PNET) in patients with unresectable, locally advanced or metastatic disease

EVEROLIMUS (AFINITOR®)

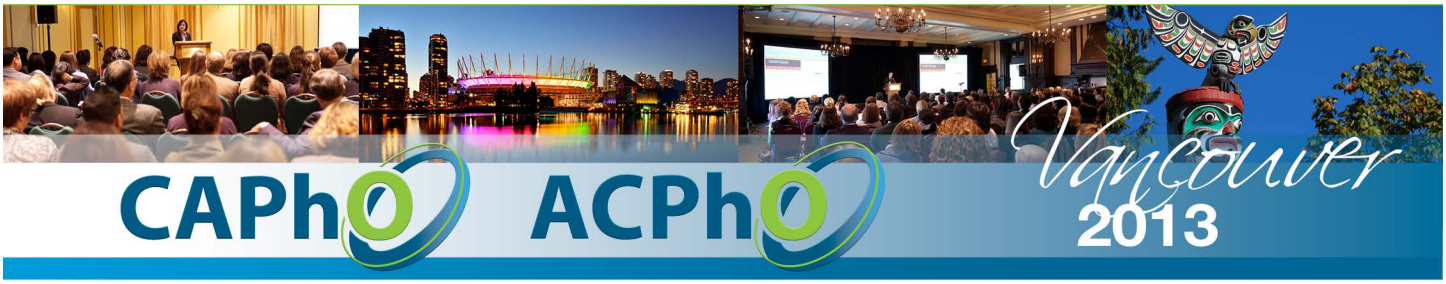
- Mechanism of Action:
- rapamycin analog and signal transduction inhibitor that selectively inhibits mammalian target of rapamycin (mTOR), a serine-threonine kinase that stimulates cell growth, proliferation and angiogenesis

CETUXIMAB (ERBITUX®)

- NOC Date December 20, 2012
- IV therapy
- For the treatment of EGFR-expressing K-RAS wild Type metastatic colorectal carcinoma (mCRC) in combination with FOLFIRI (Irinotecan, 5-fluorouracil, leucovorin) **for first line treatment**

CETUXIMAB (ERBITUX®)

- Existing indications:
- Sept 2005: as a single agent or in combination with irinotecan for mCRC in patients who progressed on other chemo regimens
- Sept 2008: in combination with RT for the initial treatment of locally or regionally advanced squamous cell H&N carcinoma



CETUXIMAB (ERBITUX®)

- Mechanism of Action:
- Recombinant human/mouse chimeric monoclonal antibody which binds to the epidermal growth factor receptor (EGFR, HER1, c-ErbB-1) and competitively inhibits the binding of epidermal growth factor (EGF) and other ligands
- EGFR signal transduction results in *KRAS* wild-type activation; cells with *KRAS* mutations appear to be unaffected by EGFR inhibition

PEMETREXED (ALIMTA®)

- NOC Date May 9, 2013
- IV therapy
- For maintenance following first-line pemetrexed and cisplastin for advanced or metastatic Non-Squamous Non-Small Cell Lung Cancer (NS-NSCLC)

PEMETREXED (ALIMTA®)

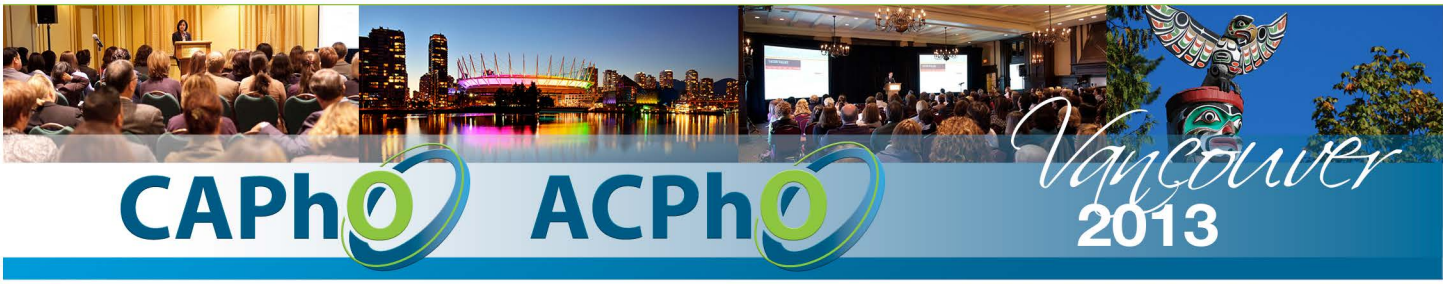
- Existing indications:
- May 2004: original NOC ; 1st line in combination with cisplatin for the treatment of mesothelioma
- Jan 2007: new indication: monotherapy in NSCLC after prior chemotherapy
- Sept 2008: new indication: 1st line in combination with cisplatin in NSCLC (non-squamous)
- May 2010: New indication: Maintenance in nonsquamous NSCLC without disease progression immediately following four cycles of first-line platinum doublet chemotherapy, excluding pemetrexed

PEMETREXED (ALIMTA®)

- Start vitamin supplements 1 week before initial pemetrexed dose to minimize cutaneous reactions
- Folic acid 400-1000 mcg daily orally (begin 7 days prior and and for 21 days after last pemetrexed dose)
- Vitamin B_{12} 1000 mcg I.M. (begin 7 days prior and then every 3 cycles)
- Dexamethasone 4 mg orally twice daily for 3 days, beginning the day before

PEMETREXED (ALIMTA®)

- Mechanism of Action:
- Antifolate; disrupts folate-dependent metabolic processes essential for cell replication



Speakers & Session Descriptions, Sunday, November 17

THE ROLE OF THE CLINICAL PHARMACIST IN COLLABORATIVE PATIENT CARE AND DRUG THERAPY MONITORING IN CANADIAN CANCER CENTRES

SUNDAY

David Saltman
BC Cancer Agency, Victoria, BC

Scott Edwards
Dr. H. Bliss Murphy Cancer Centre, St. John's, NL

10:30 - 11:15 – Regency D/E/F, Third Floor

Biography – David Saltman

David Saltman is a staff medical oncologist at the BC Cancer Agency in Victoria. He is the former Chair and Professor of the Discipline of Oncology at Memorial University and holds a PhD in Cancer Cell Biology from the University of Edinburgh and a Postdoctoral Fellowship in Molecular Cytogenetics from Stanford University. He is Vice Chair of the Cancer Advocacy Coalition of Canada and a member of the Scientific Advisory Board of Soricimed Biopharma. His current interests include the development of novel assays for detecting the anaplastic lymphoma kinase (ALK) in lung cancer, primary prevention of smoking related diseases, and cancer care advocacy.

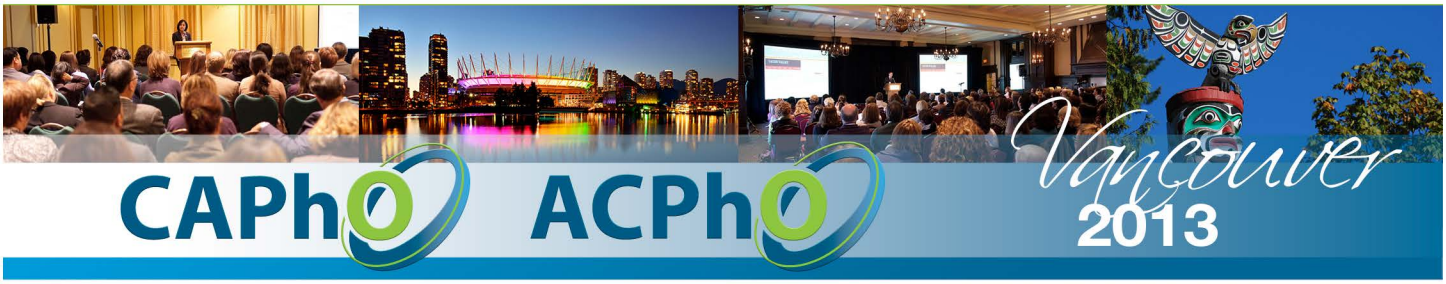
Biography – Scott Edwards

Scott Edwards is currently the Clinical Oncology Pharmacy Specialist at the Dr. H. Bliss Murphy Cancer Center in St. John's, Newfoundland. He is also an assistant professor at the School of Pharmacy and the Discipline of Oncology, Faculty of Medicine, Memorial University of Newfoundland. He is active in clinical cancer research in the area of chemotherapy toxicities, supportive care and oral chemotherapy adherence. He graduated from Memorial University of Newfoundland with a B.Sc. (Neuroscience) in 1994 and a B.Sc (Pharmacy) in 1997. In 2005, he graduated with a Doctor of Pharmacy degree from the University of Washington. He is currently working on a Master's degree in Oncology from Newcastle University.

Synopsis

Learning Objectives

- Discuss the evolution of multidisciplinary teams in oncology and the role of the pharmacist
- Review the current status of collaborative practices in Canadian cancer centres
- Learn about the development of a pharmacist-led, systemic therapy clinic in Newfoundland and Labrador



Abstract

Objective: The traditional role of the community and hospital-based pharmacist is evolving in Canada to include an expansion of pharmacists' patient care and prescribing roles. The objective of this presentation is to discuss the evolution and current status of collaborative practices in Canadian cancer centres.

Design: A review of Canadian Provincial legislation and policies governing pharmacists' collaborative patient care and prescribing was performed in 2011 and updated in 2013. Oncology pharmacists working in cancer centres were surveyed to determine if changes in legislation and policies resulted in an expanded role in their centres and specifically in pharmacist prescribing of supportive care and cancer therapies. An example of a pharmacist-led oncology clinic for the supervision of oral cancer therapy will be discussed.

Results: Current evidence suggests that in those provinces that now have legislation or health authority policies that expand the role of clinical pharmacists in cancer centres, the number of pharmacists that are utilizing these privileges and working in collaborative patient care with prescribing remain low.

Conclusions: While the number of provinces in Canada that allow an expanded role for oncology pharmacists has increased, more needs to be done to improve implementation so oncology pharmacists are able to assume their new roles in patient care.

Pharmacists and Physicians Working in Collaborative Practices in Oncology: The Future is Now

The Role of the Clinical Pharmacist in Collaborative Patient Care and Drug Therapy Monitoring in Canadian Cancer Centres

Scott Edwards Pharm.D.
Dr. H. Bliss Murphy Cancer Centre. St John's , NL

David Saltman MD PhD
BC Cancer Agency

Disclosure Statement

- Dr. Saltman is employed by the BC Cancer Agency
- **Disclosure:**
  - *Financial* — None
  - *Nonfinancial* — Scientific Advisory Board of Soricimed Biopharma and Vice Chair of the Cancer Advocacy Coalition of Canada. Receives no compensation for either affiliation.

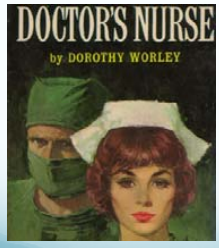
Disclosure Statement

- Scott Edwards is employed by Eastern Health, NL.
- Scott has served as an advisors or consultant to Roche, Novartis, Amgen and Eisai.

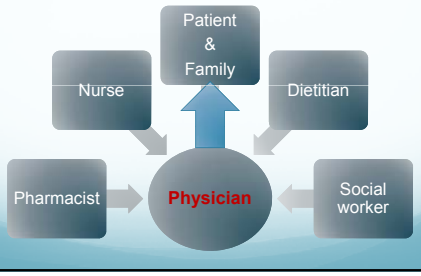
Objectives

- To discuss the evolution of multidisciplinary teams in oncology and the role of the pharmacist
- To review the current status of pharmacist non-medical prescribing in outside Canada
- To review the current status of collaborative practices in Canadian cancer centres
- To learn about the development of a pharmacist-led, systemic therapy clinic in Newfoundland and Labrador

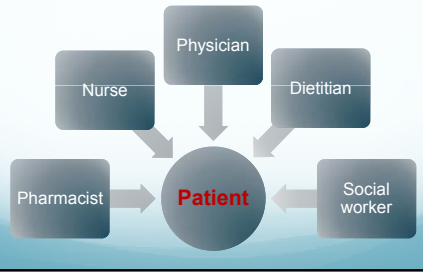
Changing Roles of Non-Physician Healthcare Practitioners



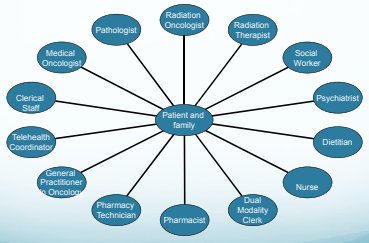
Historical Relationship of Healthcare Practitioners



Relationship of Healthcare Practitioners in 2013



Cancer Care Multidisciplinary Team in 2013



Why Should Pharmacists and Oncologists Develop Collaborative and Prescribing Relationships?

- Medical Oncology or Systemic Therapy is a drug-based specialty
- Reduce cancer drug-related morbidity and mortality
- Pharmacoeconomics
- Improve pharmaceutical care of aging population
- Improve efficiency and wait times for new patients
- Improvement recruitment and retention of pharmacists and physicians

Obstacles to Collaboration among Healthcare Practitioners

- Boundary or turf issues
- Power issues
- Communication breakdown
- Funding
- Lack of trust in another practitioner's competence
- Practice sites distant from one another

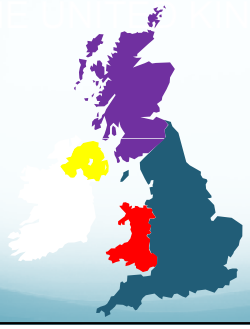
Miccolo MA et al. Crit Care Clin 1993;9:443-53

Characteristics of Successful Collaborative Working Relationships

- Healthcare practitioners in close proximity
- Time to interact (cancer centre versus community oncology clinic)
- Collaborators possess appropriate clinical knowledge
- Must be receptive to collaboration

Baggs JG et al. Res Nurse Health, 1997;20:71-80

Non-Medical Prescribing in the United Kingdom



UK Experience with Pharmacists and Non-Medical Prescribing (NMP)

- 2003: Supplementary prescribing for pharmacists
  - Partnership between physician and pharmacist
  - Patient specific clinical management plan (doctors diagnose, pharmacist prescribe as per agreed upon plan)
- 2006: Expansion to include independent prescribing model for pharmacists
  - Pharmacist assumes full responsibility for patient assessment, diagnosis and management
  - Pharmacist must only prescribe within their level of competency
  - Dispensing must be separated from prescribing

Hoti K et al. AMJ 2011;4(4):236-242

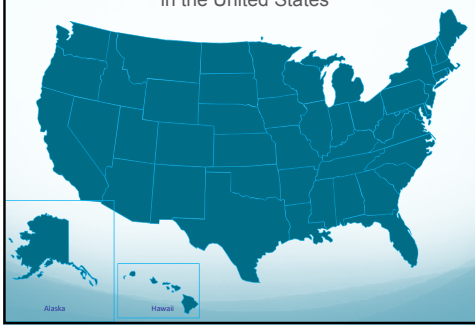
UK Experience with Pharmacists and Non-Medical Prescribing (NMP)

- 2011: 1300 Pharmacists (2-3% of workforce)
- General practice 54%, 35% NHS
- Hypertension 25%, Cardiology 9.6%, CAD 5.6%
- Only 50% of Health Authorities had a strategy for pharmacist and nurse prescribing

Non-Medical Prescribing by Pharmacists in Oncology in the UK

- Reviewing patients receiving chemotherapy
- Prescribing chemotherapy following initial prescribing decision by medical colleagues
- Prescribing supportive medications
- Using NMP on the ward for amending, updating and initiating prescriptions

Collaborative Drug Therapy Management (CDTM) in the United States



CDTM Definition

- The ACCP defines *CDTM* as “a collaborative prac- tice model or agreement between one or more phy- sicians and pharmacists wherein qualified pharmacists working within the context of a defined protocol are permitted to assume professional responsibility for performing patient assessments; ordering drug therapy-related laboratory tests; administering drugs; and selecting, initiating, monitoring, continuing, and adjusting drug regimens.”

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Collaborative Drug Therapy Management (CDTM)

- Authorized in 47 states
- Generic management plan or Collaborative Practice Agreement (CPA) for each discipline
- The scope of CPAs varies widely by state and practice setting
- Doctor diagnoses
- Pharmacist may
  - Initiate, modify, continue or discontinue therapy
  - Monitors patient during therapy

Examples of CDTM in Oncology

- Charles George VA Cancer Clinic, Asheville, NC
  - CPA allows the pharmacist to
    - assess patients actively receiving therapy,
    - order and reorder anticancer therapy (including chemotherapy) and supportive care medication,
    - perform limited physical examinations and
    - order necessary laboratory and radiographic examinations.
- U North Carolina BMT Division Certified Pharmacist Practitioners (CPPs) involved in
  - Post-transplant immunization
  - Chemotherapy counseling
  - Post discharge pharmacy assessment
  - Anticoagulation, diabetes and pain management

Sessions, JK et al. J Oncol Pract 6(5):270-271

Survey of CDTM in US

- 50% of hospital pharmacies engaged in CDTM (80% in North Carolina and New Mexico)
- More likely to occur in hospitals with
  - > 100 beds
  - Communities with population > 10,000
- Most common disciplines
  - Infectious disease
  - Anticoagulation
  - Parenteral nutrition

Thomas J III, et al. Am J Health System Pharm 2006;63(24):2489-99.

Collaborative Drug Therapy Management in Canada

Prescribing Status for Oncology Nurse Practitioners (NPs) and Pharmacists in Provinces with Collaborative Practice Agreements (CPA) as of January 2011

Province	# of Centres Surveyed	NPs with CPA	NP prescribing	Pharmacists with CPA	Pharmacist prescribing
NL	1	Yes	Yes	No	No
NS	1	Yes	Yes	Yes	No
PE	1	No	No	No	No
NB	1	Yes	Yes	Yes	No
QC	1	No	No	No	No
ON	1	Yes	Yes	Yes	No
MB	1	Yes	Yes	No	No
SK	1	No	No	No	No
AB	1	Yes	Yes	Yes	No
BC	1	No	No	No	No

2013 Update on Pharmacist CPA and Prescribing in Canada

- Newfoundland and Labrador
  - Pharmacy Act amended Jan 2013
  - Oncology Pharmacist in CPA and prescribing Level 1 and 2 drugs
- Manitoba
  - Legislation expected in Jan 2014 to allow pharmacists in CPA to prescribe
- Saskatchewan
  - Level 1 prescribing for supportive care drugs (antiemetics)
  - Level 2 prescribing in Saskatoon Cancer Centre for hormone therapy currently being formulated
- Alberta
  - Level 2 prescribing (supportive care drugs) in hematology, SCT, Pain and Symptom Management
- British Columbia
  - BC College of Pharmacy formulating expanded role of pharmacists in hospital practice

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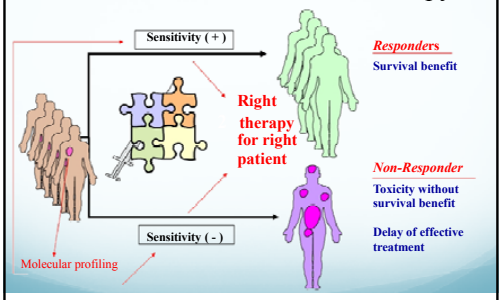
Precision Medicine and the Role of the Pharmacist in Collaborative Practice

Precision Medicine and the Transition from IV and Oral Cytotoxics to Oral Targeted Therapies

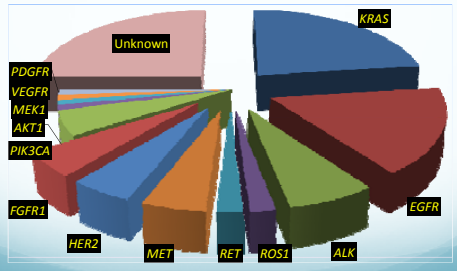
14 Oral Cytotoxics	15 Oral Targeted Therapies
• Busulfan, Capecitiabine , Chlorambucil,	• Axitinib, Crizotinib, Dasatinib, Erlotinib,Everolimus
• Cyclophosphamide, Etoposide	• Gefitinib, Imatinib, Lapatinib,
• Fludarabine, Hydroxyurea	• Lenalidomide, Nilotinib
• Lomustine, Melphalan	• Pazopanin, Sorafinib, Sunitinib, Thalidomide
• Mercaptopurine, Methotrexate, Temozolomide	• Vemunrafinib
• Procarbazine, Thioguanine	

The Present & Future: Tailored Therapy

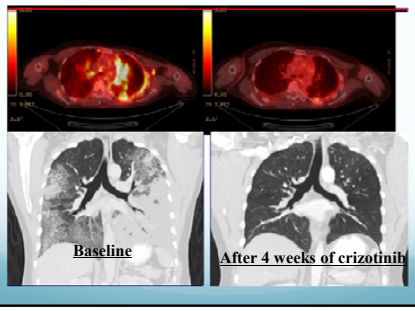


Druggable Mutations in NSCLC

- Adenocarcinoma -



Rapid Responses to Crizotinib in Patients with ROS1-Positive NSCLC



Collaborative Practice in the Age of Targeted Therapy

- 50 year old female never smoker with dyspnea
- Pulmonary emboli at diagnosis: started on LMWH by pharmacist in RJH Thrombosis clinic
- Stage IV NSCLC (adenocarcinoma), EGFR negative
- First-line Carboplatin and Pemetrexed
- Tumour shown to be ALK positive
- Crizotinib approved by Health Canada in 2012 but not funded by any province in Canada except Manitoba
- Median PFS 8 months versus 3 months for first-line chemotherapy (NEJM 2013)

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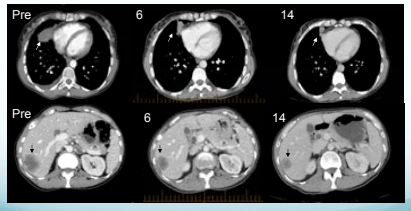
Collaborative Practice in the Age of Targeted Therapy

- What needed to be done
  - BCCA Compassionate Access Program
  - Secure crizotinib funding
    - private insurance
    - pharmaceutical compassionate access
  - Review concomitant medications for potential drug interactions
    - antidepressants
    - anticoagulants
    - naturopathic
  - Order cycle 1 and blood monitoring

Response to Crizotinib at 6 and 14 Weeks



The Pharmacist in Collaborative Practice Scenario

- Work with private insurer and pharmaceutical manufacturer to secure funding
- Review dosing and side effects with patient
- Check for drug interactions (antidepressant and QT interval, LMWH versus warfarin)
- Cycle 2:
  - Order blood work and monitor for side effects
  - Reorder crizotinib and refer back to oncologist if SAEs and for efficacy determination

Cancer Centres in Future

- More oral targeted therapies and less oral and intravenous non-targeted cytotoxic chemotherapy
- Greater need for clinical pharmacists working in collaborative practices with prescribing and monitoring privileges
  - Prevention (smoking cessation drugs)
  - Oral chemotherapy, hormone therapy, supportive care drugs, supervision
  - Anticoagulation and pain clinics
  - Tele-pharmacy

Pharmacists and Physicians Working in Collaborative Practices in Oncology: The Future is Now

Pharmacy Profession

Move from product to outcomes focused patient care

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Support for New Model of Enhanced Care

- CPhA (Canadian Pharmacists Association)
- CMA (Canadian Medical Association)
- CSHP (Canadian Society of Hospital Pharmacists)
  - Pharmacist Prescribing Task Force
    - ✓ Adapting a prescription
    - ✓ Prescribing non-prescription drugs, treatments & devices
    - ✓ Prescribing in an emergency
    - ✓ Collaborative practice

"If pharmaceuticals are a key cost driver in the system, isn't it simply common sense to make better use of those who are experts in pharmaceuticals? To tap their knowledge, use their skills and bring their expertise to bear in creating a more rational system of drug therapy? Leaving pharmacists on the sidelines is like having Wayne Gretzky on your team – and benching him. It makes no sense and it must change."
Roy Romanow
Canadian Pharmacists Association Conference, May 13, 2002

Pharmacists' expanded scope of practice

Pharmacist Prescribing – Levels of Authority

Level 1

- Recognizes the basic level of knowledge, skills and training that all pharmacists have (no additional training is required)
- Examples include; interim supplies, maintenance therapy, providing drugs in emergency circumstances, refills during physician absence, etc.

Saskatchewan College of Pharmacists. Position Statement On Enhanced Authority for the Pharmacist To Prescribe Drugs In Collaborative Practice Environments (2008). Accessed August 19th, 2013 from https://scp.in1touch.org/uploaded/58/web/site/Pharmacist_Prescribing_Final_Sept08.pdf

Pharmacist Prescribing – Levels of Authority

Level 2

- Recognizes that pharmacists are capable of undertaking advanced training (additional training to obtain credentials will be required)
  1. Provision of oral contraception and lifestyle and health promotion
  2. Collaborative prescribing agreements, therapeutic substitution, and altering dosage and/or dosage regimen

Saskatchewan College of Pharmacists. Position Statement On Enhanced Authority for the Pharmacist To Prescribe Drugs In Collaborative Practice Environments (2008). Accessed August 19th, 2013 from https://scp.in1touch.org/uploaded/58/web/site/Pharmacist_Prescribing_Final_Sept08.pdf

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Summary of Pharmacists' Expanded Scope of Practice Activities across Canada

Implemented in Jurisdiction
Pending Legislation or Regulation or Policy
Not Implemented

Pharmacists' Scope of Practice	Province/Territory												
	BC	AB	SK	MB	ON	QC	NB	NS	PEI	NL	NWT	YT	NU
Provide emergency prescription refills	✓	✓	✓	P	✓	✓	✓	✓		✓	✓		
Renew/extend prescriptions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Change drug dosage/formulation	✓	✓	✓	P	✓	✓	✓	✓		✓			
Make therapeutic substitution	✓	✓	✓			✓	✓	✓					
Minor ailments prescribing		✓	✓			P	P	✓					
Initiate prescription drug therapy		✓	✓	P	✓	✓	✓	✓					
Order and interpret lab tests		✓		P	P	✓	✓	P					
Administer a drug by injection	✓	✓		P	✓	P	✓	P		P			

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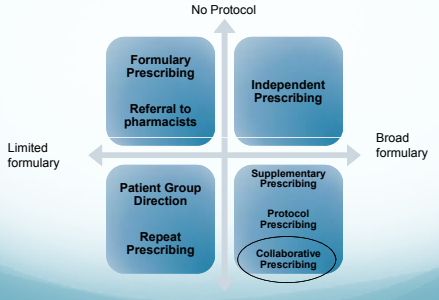
CPA

- Signed contract between a pharmacist(s)and physician(s) permitting a pharmacist(s), in collaboration with the prescriber(s), to select and modify medication therapy indicated within that specified contract
- Pharmacists may perform some or all of the following activities under a CPA
  - patient assessment
  - initiate, adjust, or discontinue drug therapy;
  - order, interpret, and monitor laboratory tests
  - formulate clinical assessments and develop therapeutic plans; provide care coordination for wellness and prevention of disease

Merten J.A. et al. *Utilization of collaborative practice agreements between physicians and pharmacists as a mechanism to increase capacity to care for hematopoietic stem cell transplant recipients.* (2013) Biology of

Prescribing models based on their level of independence



CPA in the U.S.

- Currently, 47 states and the District of Columbia allow for CPA
- The Centers for Medicare & Medicaid Services (CMS) recognized pharmacists for the first time as members of the medical staff in the hospital setting on May 16, 2012
- Ruling allows payment for pharmacists

Merten J.A. et al. *Utilization of collaborative practice agreements between physicians and pharmacists as a mechanism to increase capacity to care for hematopoietic stem cell transplant recipients.* (2013) Biology of Blood and Marrow Transplantation, 19 (4): 509-518.

Evidence to support Pharmacists' expanded scope of practice

Evidence

- Robust evidence from randomized trials that pharmacist involvement in patient care can provide benefit.
- Favorable disease-specific outcomes have been documented for the management of hypertension, dyslipidemia, heart failure, anticoagulation therapy, asthma and diabetes.

Tannenbaum C, Tsuyuki RT, CMAJ. 2013 Aug 19.

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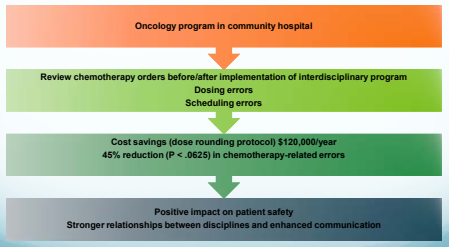
CPA in Oncology

- Pharmacists have utilized CPAs successfully in oncology for several decades to manage
  - supportive therapies
    - Anti-emetics
    - Colony-stimulating factors
  - complications of malignancies
    - anemia
    - mucositis
    - diarrhea
    - constipation
    - pain

Merten J.A. et al. *Utilization of collaborative practice agreements between physicians and pharmacists as a mechanism to increase capacity to care for hematopoietic stem cell transplant recipients.* (2013) Biology of Blood and Marrow Transplantation, 19 (4): 509-518.

Development and implementation of an interdisciplinary oncology program in a community hospital



C. Chung, A. Collins, N. CuiDevelopment and implementation of an interdisciplinary oncology program in a community hospital. *Am J Health Syst Pharm*, 68 (2011), pp. 1740–1747

Table 1.
Medication Error Rates Before and After Implementation of the Interdisciplinary Oncology Program

Error	No. (%) Errors Before Implementation ($n = 96$)[a]	After Implementation ($n = 75$)
Incorrect dose	14 (15)	5 (7)
Incorrect schedule	25 (26)	11 (15)
Missed premedication	16 (17)	4 (5)
Missed route	5 (5)	0
Expired order	21 (22)	10 (13)

[a] $p < 0.0625$ for all comparisons based on Wilcoxon matched-pairs signed-rank test.

C. Chung, A. Collins, N. CuiDevelopment and implementation of an interdisciplinary oncology program in a community hospital. *Am J Health Syst Pharm*, 68 (2011), pp. 1740–1747

CPA in Outpatient Oncology Clinic

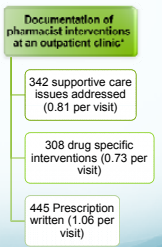
- 18 months of experience with a new program to initiate the services of a certified clinical pharmacist practitioner in the adult outpatient oncology clinics
- The pharmacist hired to lead the ongoing program was a state-approved clinical pharmacist practitioner (CPP) who had authority to prescribe with physician oversight under established protocols

*423 patient visits

Merten J.A. et al. *Utilization of collaborative practice agreements between physicians and pharmacists as a mechanism to increase capacity to care for hematopoietic stem cell transplant recipients.* (2013) Biology of Blood and Marrow Transplantation, 19 (4): 509-518.

CPA between Pharmacists and Physicians: Specific Outcomes

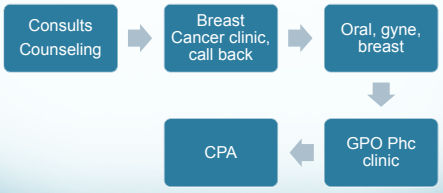
- The outpatient hematology/oncology clinical pharmacist evaluates patients for disease progression, supportive care issues, and chemotherapy toxicity.
- The clinical pharmacist has prescription writing and laboratory or procedure ordering privileges under the Scope of Practice document.
- An order for iv chemotherapy requires the signature of the attending physician, but oral or subcutaneous chemotherapy can be prescribed by a specialist clinical pharmacist or other provider.



*423 patient visits

Merten J.A. et al. *Utilization of collaborative practice agreements between physicians and pharmacists as a mechanism to increase capacity to care for hematopoietic stem cell transplant recipients.* (2013) Biology of Blood and Marrow Transplantation, 19 (4): 509-518.

Evolution of an oncology pharmacy service - NL



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Oncology Clinical Program at Cancer Clinic St.John's, NL

- Main clinical duties
  - Toxicity assessments
  - Call backs

Development of an Oral Chemotherapy Pharmacy Clinic

- Multidisciplinary approach within the Dr. H. Bliss Murphy cancer center (capecitabine-radiation oncology clinic)
- Use of standardized toxicity assessments, drug interaction checks, weekly generation of a prescription for review, increased patient interaction, etc.
- Decrease in ER visits, hospital admissions and discontinuations of therapy

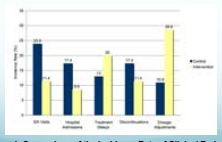


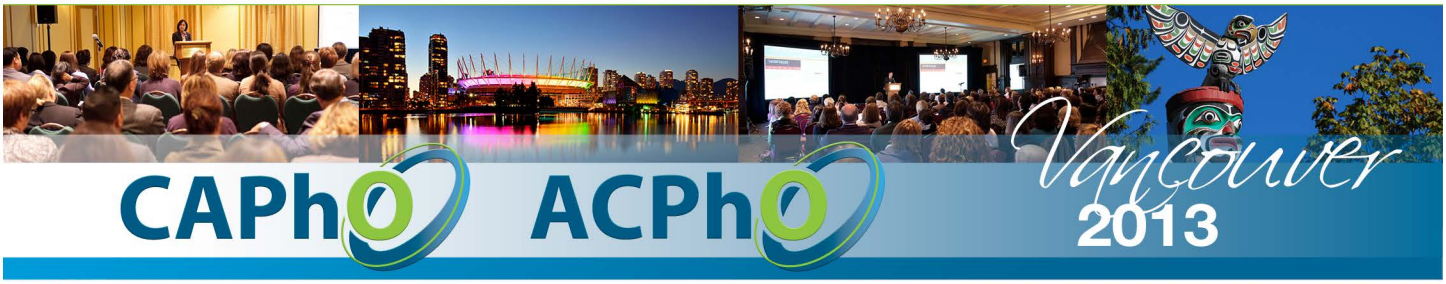
Figure 1. Comparison of the Incidence Rate of Clinical Endpoints

Collaborative Practice in NL

- Oncology pharmacist oral chemotherapy clinic
- Oncology pharmacist peripheral clinic via video

Case from CPA in NL

- Duties in Clinic
- Benefit to medical oncology team



ONCOLOGY 'APPY HOUR: MOBILE DEVICE APPLICATIONS FOR THE PATIENT AND PROVIDER

SUNDAY

Christopher Ralph
Tom Baker Cancer Centre, Calgary, AB

Amy Smith
Saskatchewan Cancer Agency, Regina, SK

11:15 - 12:00 – Regency D/E/F, Third Floor

Biography – Christopher Ralph

Chris Ralph is a graduate of Memorial University of Newfoundland's School of Pharmacy. Since 2006, Chris has worked as a clinical pharmacist in the Symptom Control and Palliative Care Outpatient Clinic at the Tom Baker Cancer Centre in Calgary. He developed and maintains an oncology professional information resource website – OncoPRN. Chris has a keen interest in incorporating health technology into clinical practice. He is also currently the Communications Committee Chair for CAPhO. In his spare time, Chris enjoys sports writing, watching and playing various sports, playing guitar, song writing, biking, hiking, skiing, traveling and keeping up with technology.

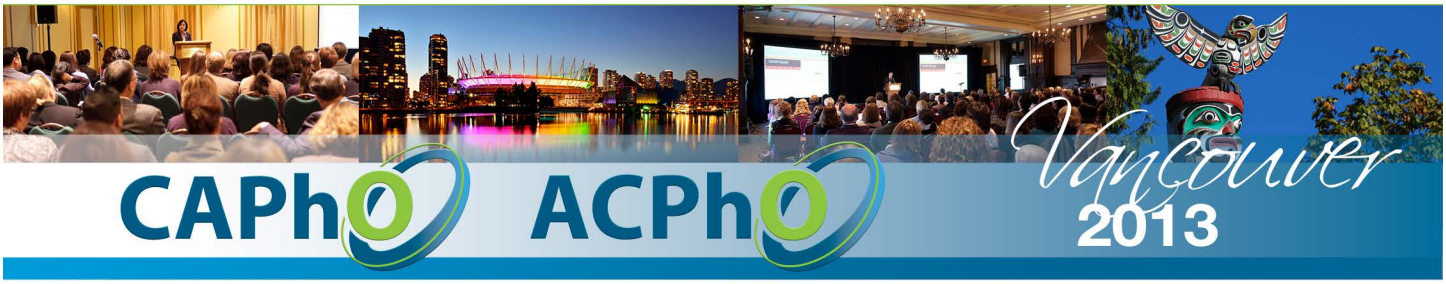
Biography – Amy Smith

Amy Smith is a recent graduate of the University of Saskatchewan. After completing a hospital pharmacy residency program (Regina Qu'Appelle Health Region), Amy began working at the Saskatchewan Cancer Agency with pediatric patients. With the help of her patients, Amy has begun incorporating Smartphone applications into her patient care. Currently, Amy is completing a Doctorate of Pharmacy at the University of Toronto. During her time away from work and studying, Amy enjoys competitive power lifting and was the 2013 Canadian Women's Open (57 kg) power lifting champion.

Synopsis

Learning Objectives

- Describe how smartphone technology has been successfully incorporated into clinical practice by a group of Canadian pharmacists, allowing them to work more efficiently
- Provide practitioners with an overview of applications that could be of great value in clinical practice and to keep abreast with current literature; not all applications are accurate and reliable but we will suggest some that are
- Provide practitioners with an overview of applications they can recommend to patients, who can utilize them to increase adherence, improve communication between patient and care provider and provide them with accurate medical/medication information and support with throughout their cancer journey



Abstract

This presentation will provide practitioners with an overview of how mobile devices and relevant applications (apps) can be incorporated and utilized to improve clinical practice efficiency and patient care. Up to 70% of Canadians use mobile devices with 80% of those using smartphones. The utilization of mobile device technology in the healthcare setting continues to grow at a very high rate - by both healthcare professionals and patients.

Mobile devices have become a vital and versatile piece of technology providing prompt communication ability, accessing decision-making support tools including medical and drug information, keeping up with current clinical information and organizing schedules for the clinical practitioner. These devices have developed into an integral part of many healthcare professional's personal and professional lives. Mobile device apps can also provide patients with support throughout their cancer journey.

It can be challenging to incorporate technology into clinical practice. It is also difficult to determine which applications may be useful and provide you (both the practitioner and patient) with accurate information and support given the myriad of apps in the marketplace. Successful implementation of mobile devices into clinical practice will be outlined in this presentation with a focus on reviewing clinically useful applications for healthcare professionals and patients, highlighting positive aspects of the apps and any potential negative components.

Christopher Ralph, Amy Smith | Presentation Handouts Pg1

Oncology 'App'y Hour:

Mobile Device Applications for the Patient and Provider

Disclosure

- We have no actual or potential conflicts of interest in relation to this presentation.

Objectives

- Describe how smartphone technology has been successfully incorporated into clinical practice by a group of Canadian pharmacists, allowing them to work more efficiently.
- To provide practitioners with an overview of apps that could be of great value in clinical practice and to keep abreast with current literature; not all apps are accurate and reliable but we will suggest some that are.
- To provide practitioners with an overview of apps they can recommend to patients, who can utilize them to increase adherence, improve communication between patient and care provider and to provide them with accurate medical/medication information and support with throughout their cancer journey.

Steve Jobs:

"Technology is nothing. What's important is that you have a faith in people, that they're basically good and smart, and if you give them tools, they'll do wonderful things with them."

Definitions - Oxford Dictionaries

- **Smartphone:**
  - "a mobile phone that is able to perform many of the functions of a computer, typically having a relatively large screen and an operating system capable of running general-purpose applications."
- **Tablet:**
  - "a small portable computer that accepts input directly on its screen rather than via a keyboard or mouse."

App - Definition

"self-contained program or piece of software designed to fulfill a particular purpose; an application, especially as downloaded by a user to a mobile device."

Christopher Ralph, Amy Smith | Presentation Handouts Pg2

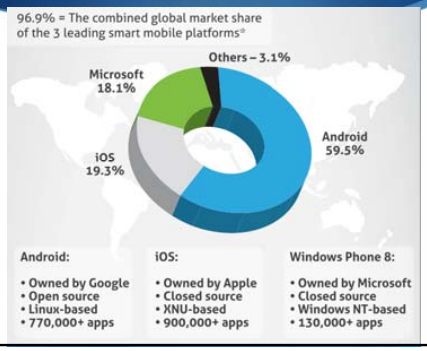
Disclaimer

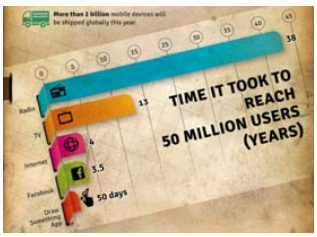
- "Medical professionals must be made aware that some apps contain unreliable, non-peer-reviewed content so that they can choose carefully which apps to use in clinical care."
  - From: "Medical apps for smartphones: lack of evidence undermines quality and safety" that was published in Evidence Based Medicine in August 2012
  - PUBMed Link: http://www.ncbi.nlm.nih.gov/pubmed/22923708

Smartphones: Just How Powerful?

Mobile Device Use Explosion

- Up to 70% of Canadians use mobile devices
- Of those, 80% use smartphones
- 500 million medical app users by the year 2015
- International medical app market to be close to $23 billion by 2017
- By 2014, mobile internet use should exceed that of by desktop





Christopher Ralph, Amy Smith | Presentation Handouts Pg3

On the road to medical 'app'iness

- 86% of clinicians now use smartphones in their professional activities, up from 78% in 2012.
- 53% use tablets at work, compared to 34% last year.

Positive Aspects of Patient-Orientated Apps

Constantly accessible

Involves and educates the patient

Storage place for medical information

Little to no cost

Does this translate into improved clinical outcomes?

Lacking evidence

Medication Adherence/ Medication Reconciliation Apps

Different features to consider:

Cost — Online data entry

Missed doses — Multi-profile

Multi-lingual

Complex medication instructions (e.g. tapering medications)

Compliance with HIPA statement

- **Select the app which is best suited for each patient**

Medication Adherence/ Medication Reconciliation Apps

MyMedRec

- Collaboration (CMA, CNA, CPhA, ISMP, Rx&D)
- Easy to use and free
- Input image of medications
- Option to include non-medication info
  - (e.g. HCP contacts, allergies)
- Store multiple persons' information
- Email information

Medication Adherence/ Medication Reconciliation Apps

MyMedRec

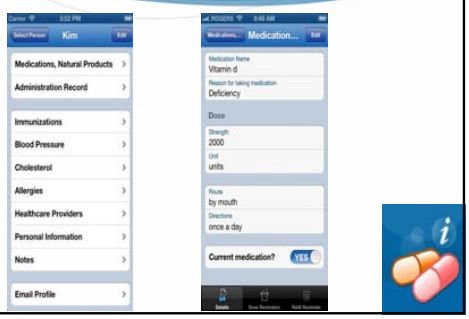
-Limited options to individualize

(e.g. Limited to recording basic lab values)

-Limited with complex medication regimens

Overall basic app for maintaining an up to date medication list

MyMedRec



Christopher Ralph, Amy Smith | Presentation Handouts Pg4

Oncology Patient- Orientated Apps: Early Detection

UMSkin

- Useful if at high risk of skin cancer
  - (e.g. increase sun exposure, fair skin)
- Sends skin check notifications
- Educational component
- Does not act as a diagnostic app

Caution:

- Potential for misdiagnosis: e.g. DoctorMole

UMSkin

Oncology Patient- Orientated Apps: Treatment Focused

Ichemodiary

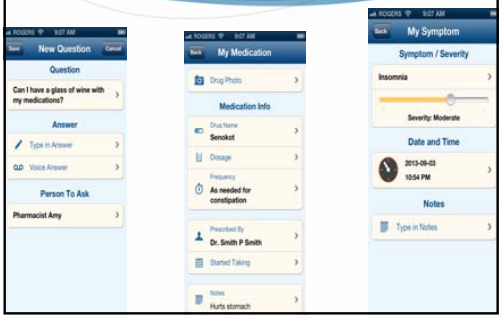
- Track treatment and supportive care
- Options to record variety of symptoms
  - Date, time, and severity
  - Sliding scale to grade symptom severity
- Great for patients who are very involved in their therapy
- Patient education
- Not peer reviewed
- Developed by Merck
- Free

Oncology Patient- Orientated Apps: Treatment Focused

Cancer.net

- Developed by American Society of Clinical Oncology
  - Reviewed by oncologists
- Information on over 120 different types of cancer
- Input questions for health care providers
- Input photos of medications or medication bottles
- Free

Cancer.net



Oncology Patient- Orientated Apps: Treatment Focused

ChemoCalendar

- Designed to replace paper calendar
- Pre-specified events or customize events (e.g. "Treatment Day")
- Input specific lab results and symptoms (e.g. WBC, Platelets, Temp, N/V/D, etc)
  - Graphical options for results
- Option to email information
- Minimal patient education resources
- Free

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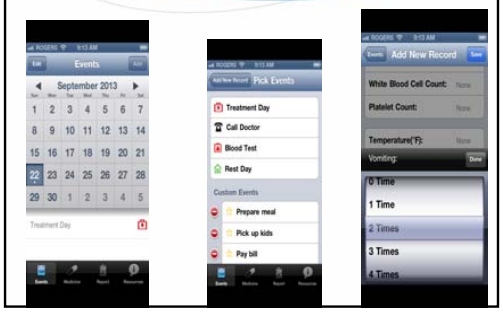
ChemoCalendar



Oncology Patient- Orientated Apps: Treatment Focused

Caring Bridges

- Social community for those with a disease/condition
- Quickly pass along update information to many people
- Basic privacy functions
  - (minimal flexibilty)
- Free

Oncology Patient- Orientated Apps: Tumor Site Specific

- Many tumor site specific apps available

  e.g. Breast cancer, prostate cancer, etc
- Many options available if you require something more specific

Integration of Smartphones Into Clinical Pharmacy Practice:

An Evaluation of the Impact on Pharmacists' Efficiency

- The Vancouver Island Health Authority (VIHA) Experience

Why use a Smartphone clinically?

- Communication
- Drug Info
- Organization
- Decision support tools
- Literature
- Presentations
- Productivity
- Patient Care
- Education
- Portability

Study Design: Multicenter, Prospective, Observational

P - 90 VH-IA pharmacists

I - Corporate Smartphones (iPhone 4)

C - Current communication devices (pager)

O - Multiple outcomes

T - October 2012 to March 2013

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Outcome Measures

- Time Trial: Time answering 22 drug info ?
- Survey: 1) Demographic 2) Satisfaction
- Direct Observation
- Phone Usage

Results of Time Trial:

Smartphone use facilitated a statistically significant faster response time overall (p=0.039)

Faster With Smartphone
Side Effects
Overdoses or poisoning
Precautions/contraindications
Pharmacokinetics
Compatibility/Stability
No Difference
In 10 types of drug therapy ?s
Slower With Smartphone
MOA
Drug of choice and alternatives
Available dosage forms
Therapeutic indications

Results of Survey - Smartphone Use

- 98% - Smartphones are useful
- 87% - Smartphones aids job performance
- 46% - increased confidence and competence in resolving DRPs

Postive Aspects
Drug info accessibility
Rapid communication
Easier management of emails & calendar
Negative Aspects
Small screen
Bad reception
Does not help with tracking DRPs

Applicability to Practice

- Concluded: *"Sufficient evidence to continue to support the use of smartphones within VIHA's pharmacy department."*
- As innovators, this project put pharmacy on the map within VIHA.

Barriers to Integration

- Resistance to technology
- IT issues/infrastructure
- Lack of reliable Wifi/data connections
- Maintaining privacy
- Cost effectiveness
- Policies about use of mobile devices

Oncology Apps for Providers

Clinical Reference

Clinical Tools

Literature Curation

Education

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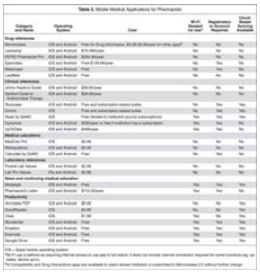
Considerations Before Using An App

- Regularly updated?
- Properly referenced?
- Authors listed?
- Recommended by your mentor, university or healthcare institution?
- Is the app's primary purpose to inform the health professional (and not the patients)?
- Maintain privacy?

Table 2. Mobile Medical Applications for Pharmacists.



Aungst T D Ann Pharmacother 2013;47:1088-1095

Table 3. Comparison of Mobile Drug Referencing Apps.

Table 3. Comparison of Mobile Drug Referencing Apps

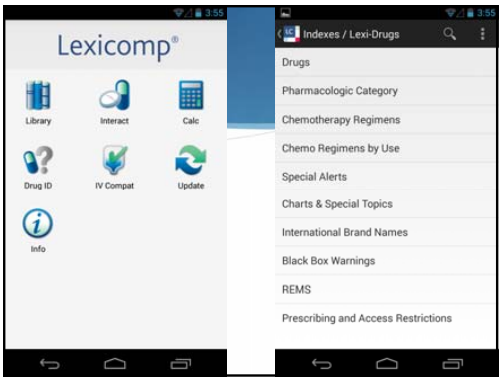
Feature	Micromedex	Lexicomp	PEPID Pharmacist Pro	Epocrates	Medscape
	App				
Drug information	Yes*	Yes	Yes	Yes	Yes
Intravenous drug compatibility	Yes	Yes	Yes	No	No
Drug interaction checker	Yes	Yes	Yes	Yes	Yes
Pill identification	No	Yes	Yes	Yes	No
Laboratory values	No	Yes	Yes	No	No
Medical calculators	No	Yes	Yes	Yes	No
Allergy checker	No	No	Yes	No	No

*Information provided on mobile app is not the same as Micromedex 2.0, but rather summarized information.

Aungst T D Ann Pharmacother 2013;47:1088-1095

Lexi-Comp: Versatile Essential App

- comprehensive drug reference
- drug interaction checks
- calculators, clinical tools, IV compatability
- **Likes:** aesthetically pleasing interface with descriptive and easy to use, intuitive modules
  - Not dependent on wifi/data
  - Comprehensive; same info as website
- **Dislikes:** crashes occasionally



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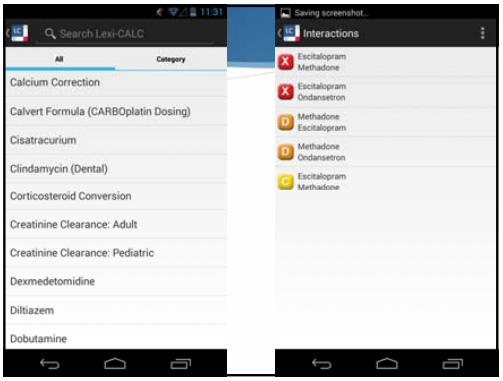

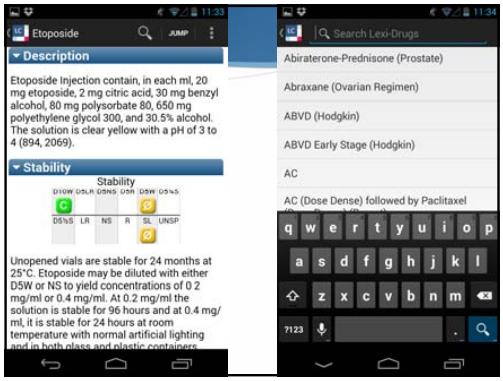

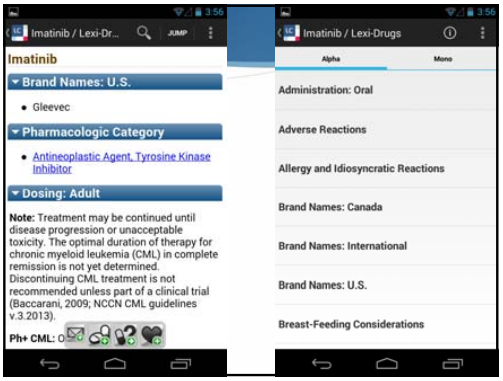

Evernote: Non-medical Essential App

- Tremendous resource for keeping track of notes
- Can even add other users' notes.
- Take pictures of handouts
- Helps you remember and act upon ideas, projects and experiences across all the computers, phones and tablets you use.

Why Evernote?

Feedly: Non-medical Essential App #2

- Presents website articles with an easy to use interface and aesthetically pleasing manner.
- Growing: healthcare professional writers writing great academic and clinical pearls for practice on websites/blogs.
- Set up to pull in posts from all the key medical websites or medical blogs you follow.

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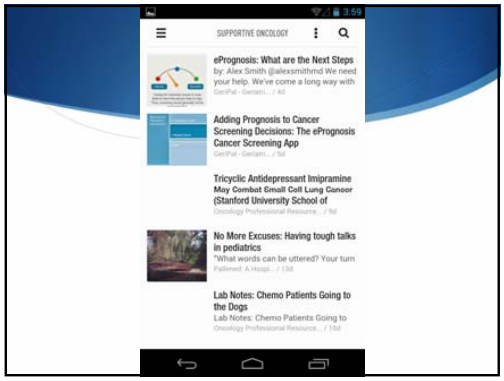
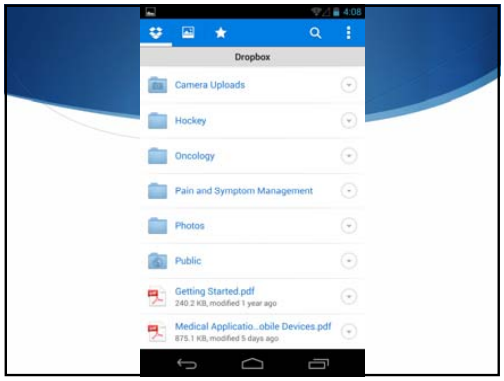


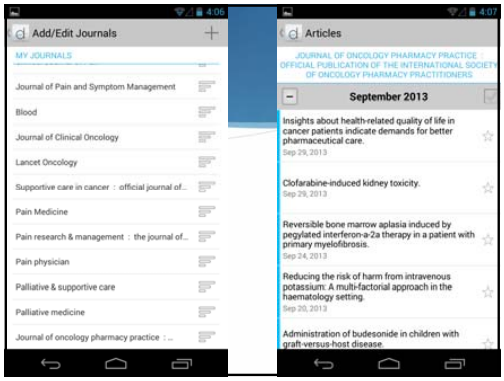
Dropbox: Non-medical Essential

While Evernote is the application you want to store your medical notes, Dropbox is the one you want to store your larger medical files, ranging from grand rounds presentations to medical literature PDF files.



Docphin: Medical Lit Curation App

- help keep abreast of medical news & research
- a platform that is integrated with an institution's library (save your login)
- serves as an integrated portal to help access those papers for you, without utilizing a web browser or going through different logins or journal portals.
- Options are broken down into different medical specialties (e.g. palliative care, oncology, hematology) with associated medical journals.



Docphin: Likes

- App leaves off from when you last visited; you can then see what new articles are released
- Integration of Twitter and media news feeds
- Removes the need to utilize a mobile browser to access a medical libraries resources
- Ability to access and store PDF to mobile devices

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Docphin: Bottom Line

- Offers a breakthrough mobile platform for up-to-date medical literature access
- Pros: wide diversity of medical literature and media functions
- Cons: would benefit from further search features in order to help locate journals or papers of interest

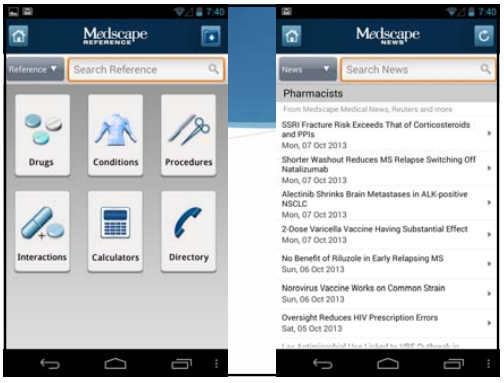
Medscape: General Ref. App

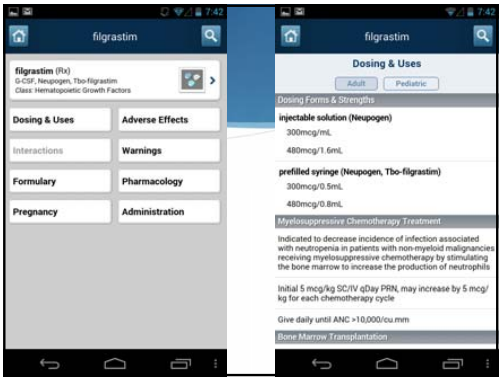
Pros:

- Breadth and depth
- Info well-referenced
- Additional resources: CME activities,medical news section.
- Sponsored content is clearly identified

Cons:

- Requires lengthy (up to 10 minutes to download) monthly updates in-app.
- The app cannot be used until the updates are implemented.





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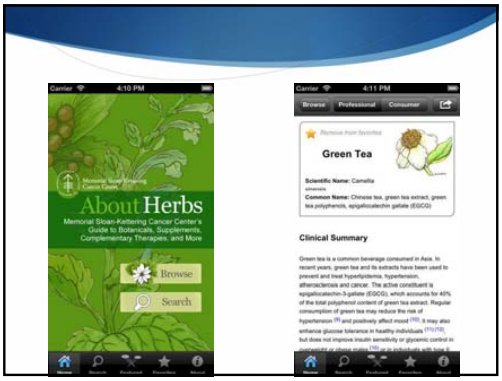

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Drug Formulary App (CCO)

"…includes monographs for drugs and regimens used in systemic cancer treatment, and symptom management information."

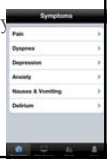
Searchable; flag any document you like as a "favourite," or share documents via e-mail.

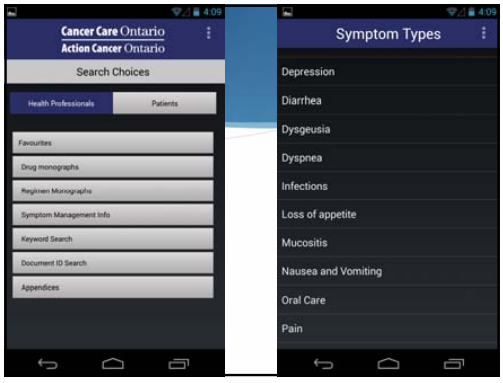
CCO - Symptom Management

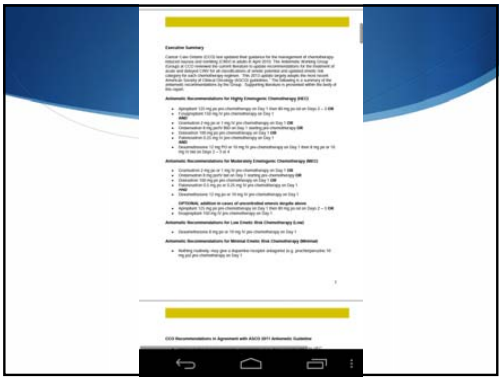
- App uses an algorithm to guide care providers through clinical assessment and care planning based on symptom severity.
- Recommendations include both medication-related & non-medication-related interventions
- Screen patients first using the ESAS
- Requires connectivity

CCO - Symptom Management App

- View assessment guides and care pathways.
- Select the ESAS tool in >30 languages.
- Use your device's GPS to locate nearby kiosks where patients can report their symptom scores electronically (ON)







MAT - MASCC Antiemesis Tool

- Assists patients and providers in communicating about the prevention and control of CINV.
- The concept is to provide an easy-to-use and easy-to-evaluate tool to assist in providing the best individual care to patients.
- Understand effectiveness of antiemetic strategies.

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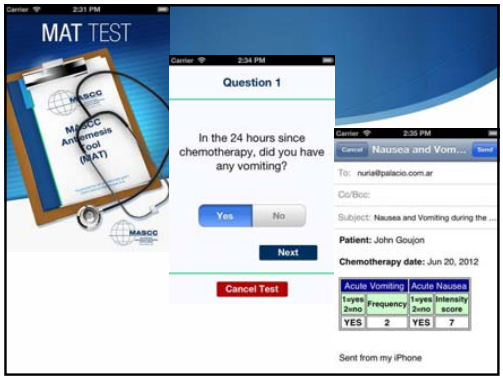
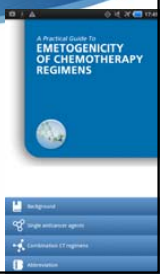
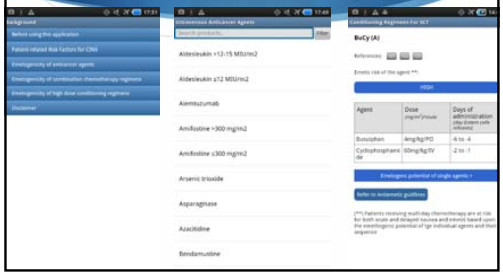


Emesis iGuide

- Help facilitate decision making on the antiemetic therapy to be administered to patients undergoing a specific chemotherapy (CT) regimen.
- Based on data from latest ASCO, ESMO, MASCC, NCCN, and NCI guidelines
- Integrated with relevant evidences from the international scientific literature.



The Emesis iGuide Summarizes Emetogenicity Potential



Conclusion

- The use of mobile devices and apps in the healthcare setting is exploding.
- In the oncology setting, apps for patients can potentially assist with increasing adherence and educate them.
- Mobile devices can improve oncology pharmacists' productivity when integrated in a systematic manner.
- There are many useful apps available to the provider to assist with productivity, clinical practice, keeping abreast of oncology literature, etc.

Come Monday...

- Will you consider implementing mobile devices into your practice?
- How will you go about it?
- *Start low, go slow.*

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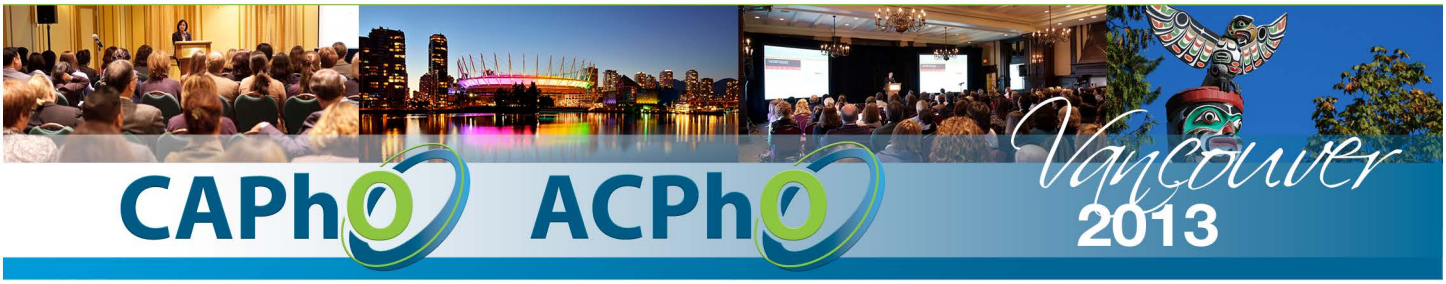


Exhibition & Posters

Opening Hours

The following events will take place in the Exhibit & Poster Area, located in Regency A/B/C & Foyer, Third Floor.

Poster Author Instructions

Please set up your poster on Saturday, November 16th between 06:00 and 07:30 in the Regency Foyer, Third Floor. You can remove your poster between 10:30 and 12:00 on Sunday, November 17th.

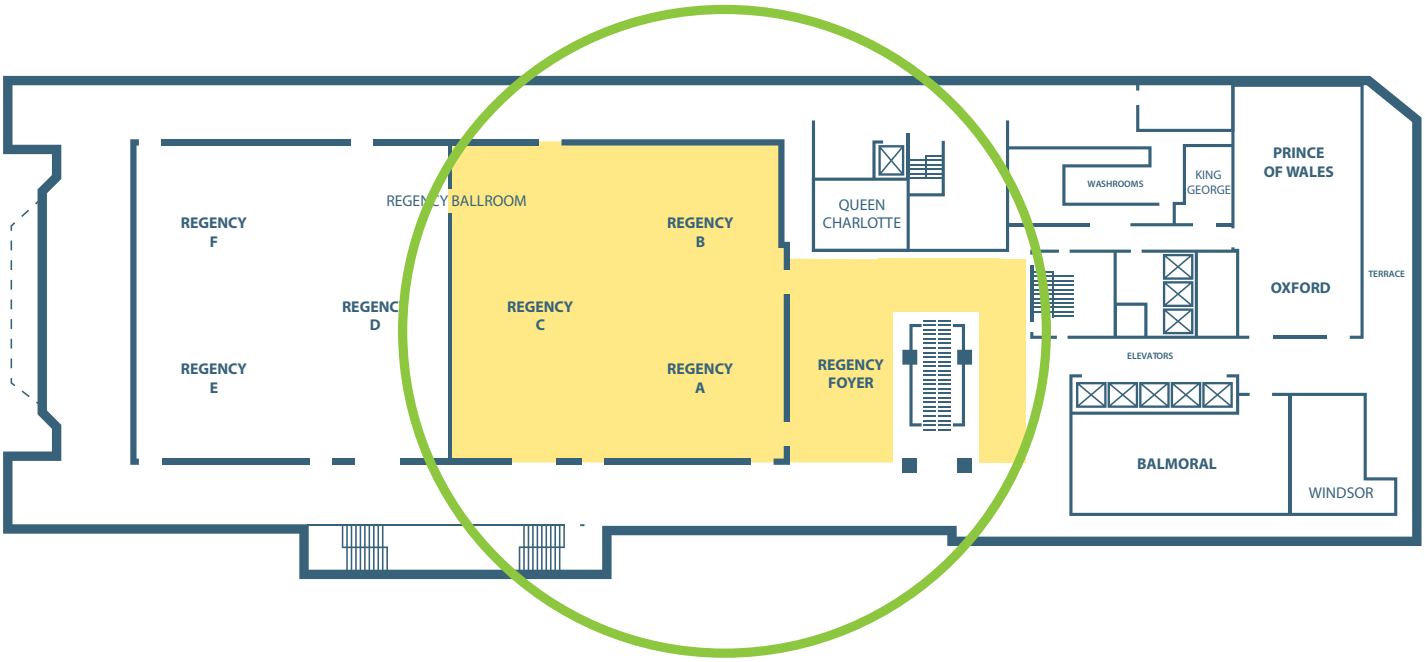
Attendance is required at the Exhibits and Posters Viewing Reception on Saturday, November 16th from 16:35 to 18:30 as well as the CAPhO Poster Awards Presentation on Sunday, November 17th from 09:45 to 10:15.

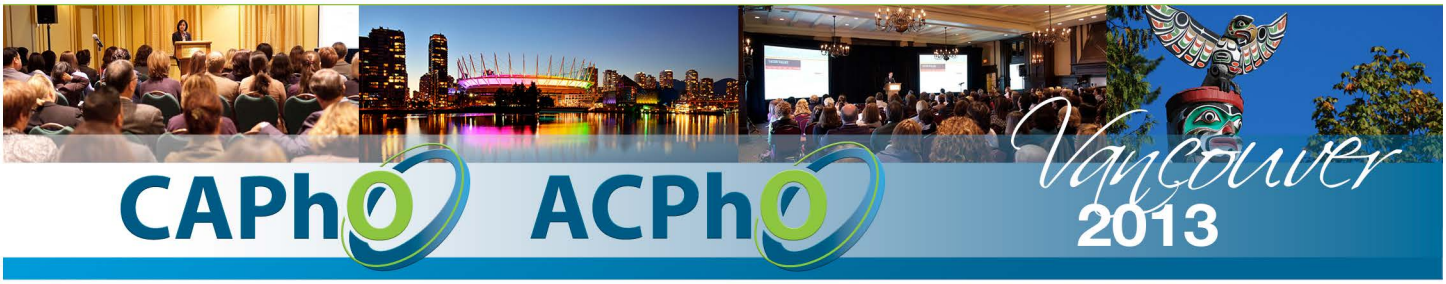
Saturday, November 16 07:30 – 18:30

07:30	Exhibit Area opens
07:30 - 08:15	Continental Breakfast
10:00 - 10:30	Break
13:00 - 14:00	Lunch
15:20 - 15:50	Break
16:35 - 18:30	Exhibits and Posters Viewing Reception – *Poster Authors are present to answer any questions*
18:30	Exhibit Area closes

Sunday, November 17 07:30 – 10:30

07:30	Exhibit Area opens
07:30 - 08:30	Continental Breakfast
10:15 - 10:30	Break
10:30	Exhibit Area closes



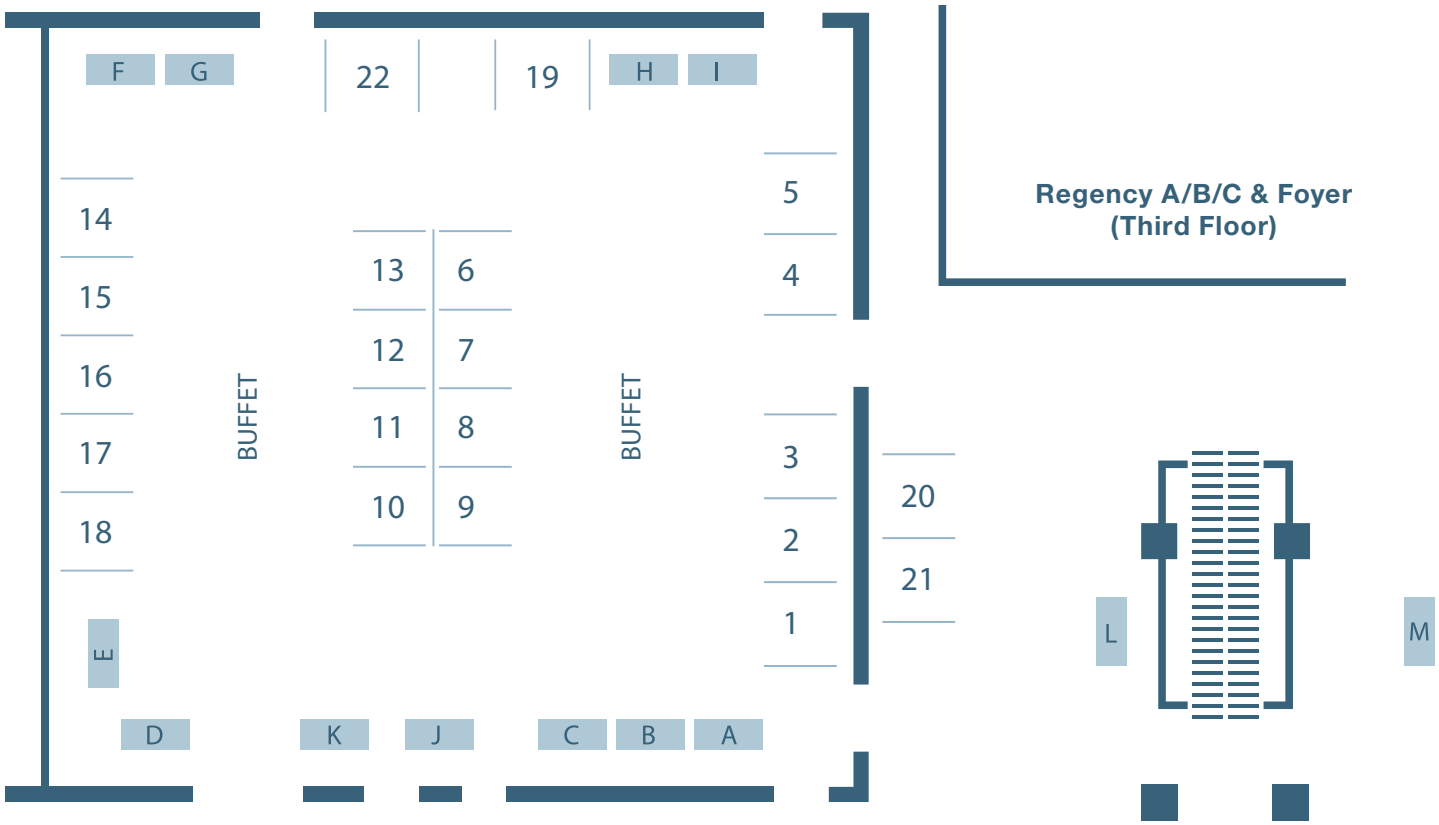


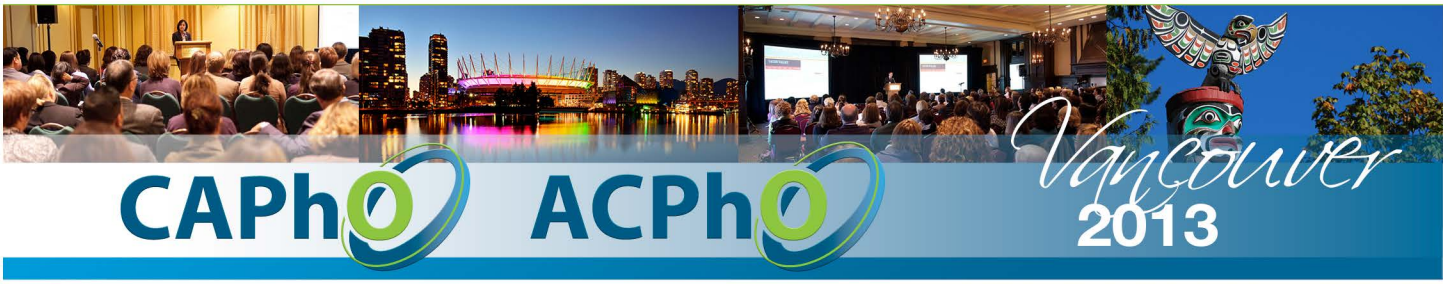
Exhibitor Listing

Company	Booth #
ALBERTA HEALTH SERVICES	20
ASTELLAS PHARMA CANADA	4
BAXTER	18
BAYER INC.	3
BD MEDICAL	12
CAPhO	21
CELGENE	11
EISAI	19
GLAXOSMITHKLINE CANADA INC.	5
HOFFMANN-LA ROCHE LIMITED	7
HOSPIRA HEALTHCARE CORPORATION	14

Company	Booth #
ICU MEDICAL	22
INTELLIGENT HOSPITAL SYSTEMS	10
JANSSEN	6
LEO PHARMA	8
LUNDBECK ONCOLOGY	13
MERCK	2
NOVARTIS PHARMACEUTICALS CANADA INC.	15
PFIZER ONCOLOGY	16
PHARMACEUTICAL PARTNERS OF CANADA INC.	1
SANDOZ CANADA INC.	17
SANOFI	9

	Table
ABBVIE	D
AMGEN ONCOLOGY	C
ASTRAZENECA	J
BOEHRINGER-INGELHEIM	G
BRISTOL-MYERS SQUIBB CANADA	M
ELI LILLY	B
HEALTHMARK	F
LINACARE COSMETHERAPY INC.	K
OMEGA	E
SEATTLE GENETICS	H
SOSIDO	L
TAKEDA CANADA INC.	I
TEVA CANADA LIMITED	A

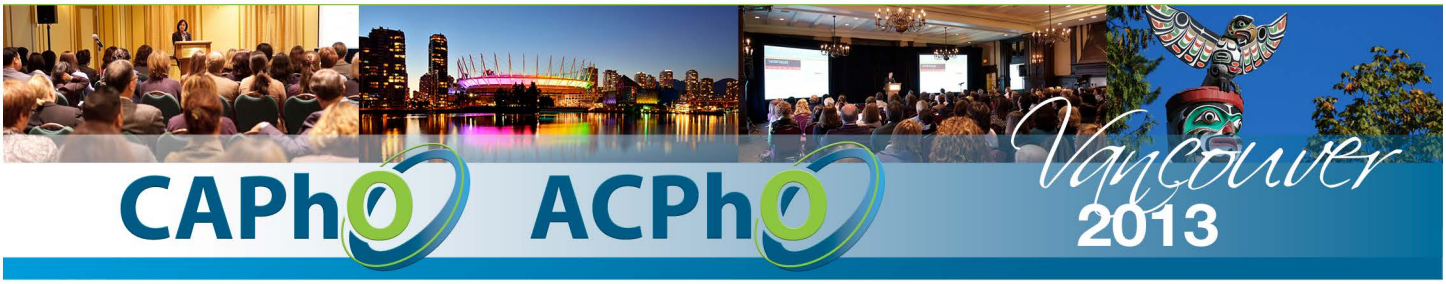




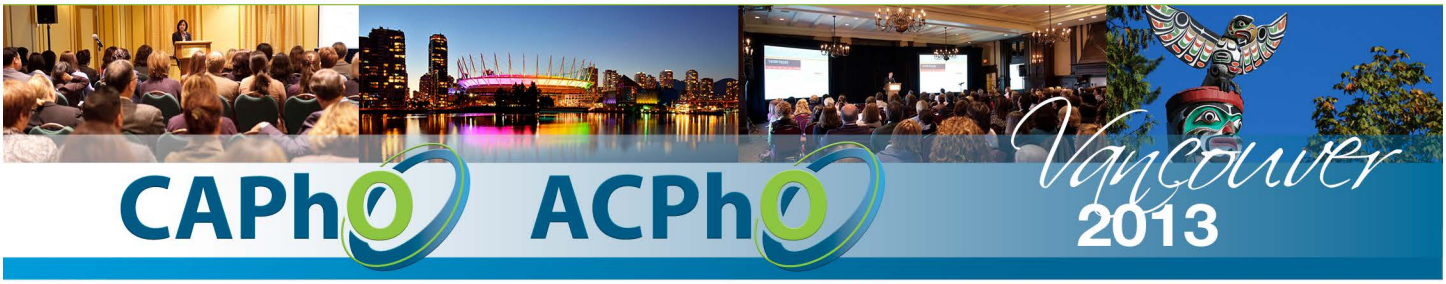
Poster Listing

Administration

Pharmacy Practice



Research



Administration

Bringing the Team Together: Establishment of a Chemotherapy Pharmacy Satellite

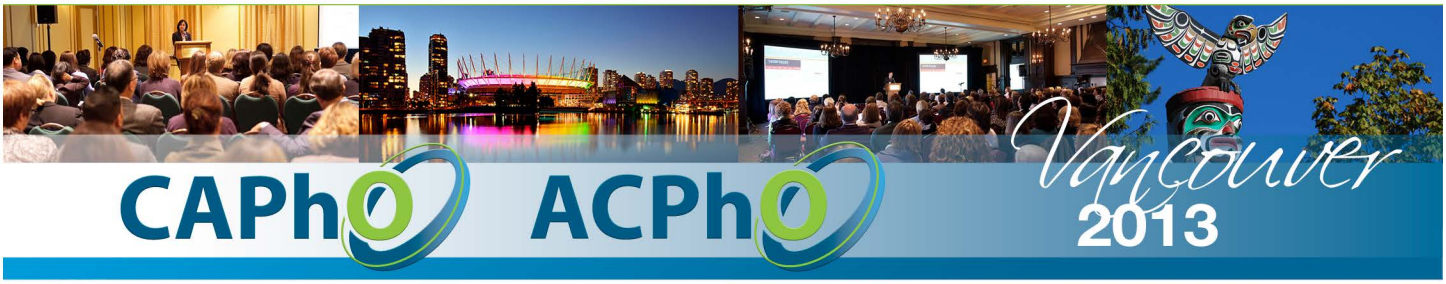
OBJECTIVE: To establish a Pharmacy Satellite within the clinic of the Cape Breton Cancer Centre.

DESIGN: Chemotherapy preparation as well as verification and entry of chemotherapy orders took place within the Pharmacy Department of the Cape Breton Regional Hospital which is located separately from the Cancer Centre. Four rooms within the clinic were provided for the satellite.

DETAILS: A needs assessment was conducted with regards to new equipment requirements and organization of workflow with the change in layout and location. The chemotherapy preparation process was reviewed and modified. A technician chemotherapy checking policy and training program was developed to streamline the chemotherapy preparation process and facilitate a self-sustaining service independent of the main dispensary. Policies and procedures regarding chemotherapy checking from similar centers in the province were reviewed along with supporting provincial policy for chemotherapy preparation. Criteria for certification/validation and a training program with exam for technician chemotherapy checking were all approved by departmental managers and implemented by the Oncology Pharmacist.

RESULTS: The chemotherapy preparation suite was launched August 13/2012. The physical layout changes allow for closer adherence to Chapter <797> sterile compounding recommendations. A total of six technicians initially qualified for chemotherapy checking certification. Initial testing began in May 2012.

CONTACT AUTHOR: Philip Shaheen, Cape Breton Regional Hospital/Cape Breton Cancer Centre, Sydney, NS



Administration

Building an Oncology Curriculum in a New Pharmacy Program: The University of Waterloo Experience

BACKGROUND: Recent evidence has demonstrated that pharmacists often do not feel confident in dealing with oncology as a therapeutic area. The amount of oncology content in pharmacy curricula across the country is variable and specialty residencies in the oncology field are scarce. The opening of a new pharmacy school at the University of Waterloo provided the opportunity to address these issues by building a comprehensive oncology pharmacy curriculum.

METHODS: Fundamental concepts of oncology practice, including supportive care, review of oncology therapeutic agents, and cancer pathophysiology, were included in a block of core therapeutics. An elective course was additionally offered which covered specifics of cancer treatment, with weekly modules covering specific disease sites, as well as various special topics in the oncology field.

ASSESSMENT: Student satisfaction with the course was measured using analog scales by way of course evaluations. Student comments were collected and analyzed for means of improving the coursework for future offerings.

CONCLUSIONS: Satisfaction with both the core component and the elective course was very high. The elective course has been fully enrolled in all three years it has been offered. Student feedback in both has been overwhelmingly positive. We will continue to offer this coursework to future students.

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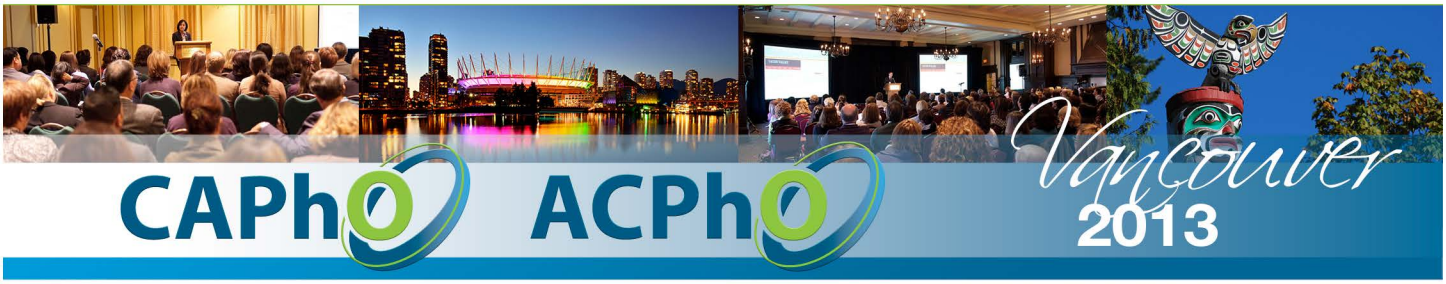

Administration

Implementation of a Medication Reimbursement Specialist (MRS) Role to Facilitate Medication Access for Outpatient Oncology Patients – An Interim Evaluation

OBJECTIVE: A 3-year pilot Medication Reimbursement Specialist (MRS) position was implemented to provide support to patients and clinicians for drug access and reimbursement activities. An interim evaluation was conducted to assess the impact of MRS services in an outpatient oncology setting.

DESIGN: MRS activities and workflow were defined based on multidisciplinary feedback. Services were available on-site Monday through Friday; 9AM to 5PM. A database was developed to track case data and reimbursement outcomes. Satisfaction surveys were utilized to capture patient feedback.

RESULTS: From June 2010 to July 2012, the MRS conducted 538 patient consultations. Drug access and reimbursement was successfully obtained for 98.3% of patients. Mean turnaround time was 10.0 days; ranging from 0 (same day) to 77 day(s). Total drug cost avoided for patients was $2,012,738.80. Patient and clinician feedback was positive and underscored the value of the service as a patient care resource. Interim results led to discontinuation of the pilot program prior to its proposed 3-year term and prompted the establishment of a permanent MRS service to support outpatient oncology care.

CONCLUSION: Based on significant drug costs avoided for patients and positive stakeholder feedback, a similar MRS model at other centres could support improved outpatient services.

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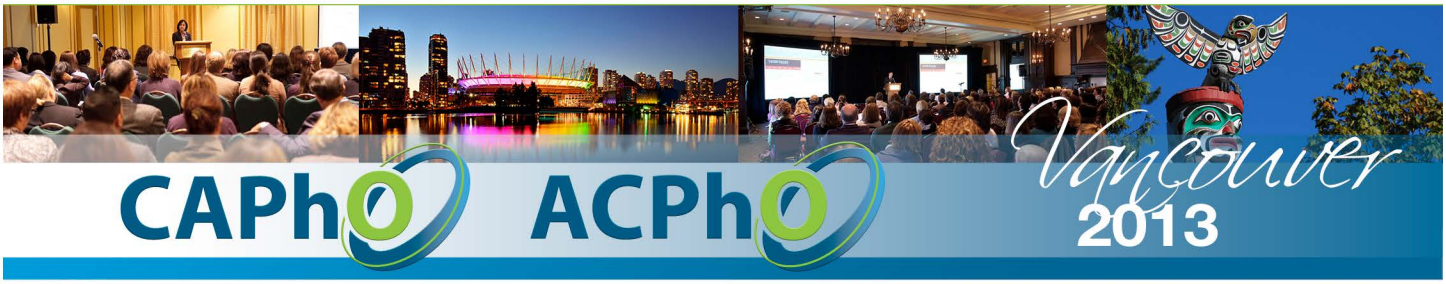

Administration

Managing Chemotherapy Drug Shortages in Ontario

OBJECTIVE: Chemotherapy drug shortages are common and unpredictable with multifactorial causes. Cancer Care Ontario developed a system level strategy to address the needs of pharmacists managing shortages by providing a virtual communication workspace and disease site expert guidance.

DESIGN: A recent shortage of publicly funded liposomal doxorubicin (LD) is described for both new starts and for prevalent LD treated cases in refractory ovarian cancer. A funding policy was amended so patients already on treatment could switch to topotecan (TT), which also became the preferred funded option for new patients.

RESULTS: In the quarter prior to shortage, 83 new patients started on LD and 1 on TT. The average number of monthly prevalent LD and TT cases was 80 and 4 respectively. For the first quarter post shortage, 20 new patients started on LD and 34 on TT. Seven cases requested for funding to switch from LD to TT. Total number of new and prevalent cases on either therapy continued to drop post LD shortage and immediately returned to baseline when the shortage resolved.

CONCLUSION: Drug shortages have significant impact on patients and providers. Even when appropriate substitutes are available, quality of care may be affected.

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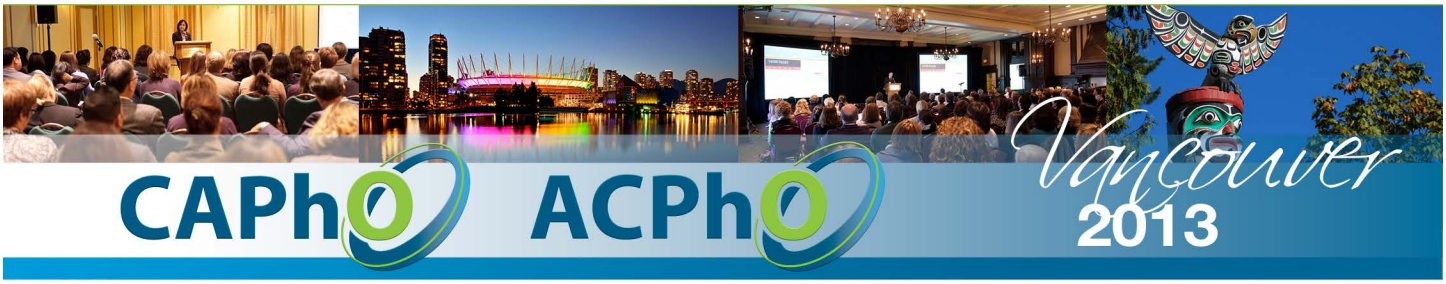

Administration

Hazards in Determining Whether a Drug is Hazardous

The US National Institute for Occupational Safety and Health (NIOSH) sample hazardous drug list and evaluation criteria have provided an important foundation to help institutions identify and create a list of hazardous formulary drugs. However, further guiding principles were needed to make the adoption of the NIOSH list feasible at our organization. The development of an institutional list of hazardous drugs at the BC Cancer Agency (BCCA), British Columbia, Canada has evolved since 2005.

First, we developed separate directives for determining the inherent hazardous toxicity of a drug using the NIOSH criteria as well as the requirements for safe handling (e.g., exposure risks) based on dosage forms of these drugs. Secondly, we created a systematic approach to determine the scope of the drugs reviewed by US NIOSH. Thirdly, we streamlined our review process by defining the drugs which still needed to be evaluated by our organization. Finally, we considered the pros and cons of creating a tiered system for classifying hazardous drugs beyond those recommended by US NIOSH. The BCCA HD List consists of the 2012 NIOSH HD List and the regularly updated BCCA HD List Addendum.

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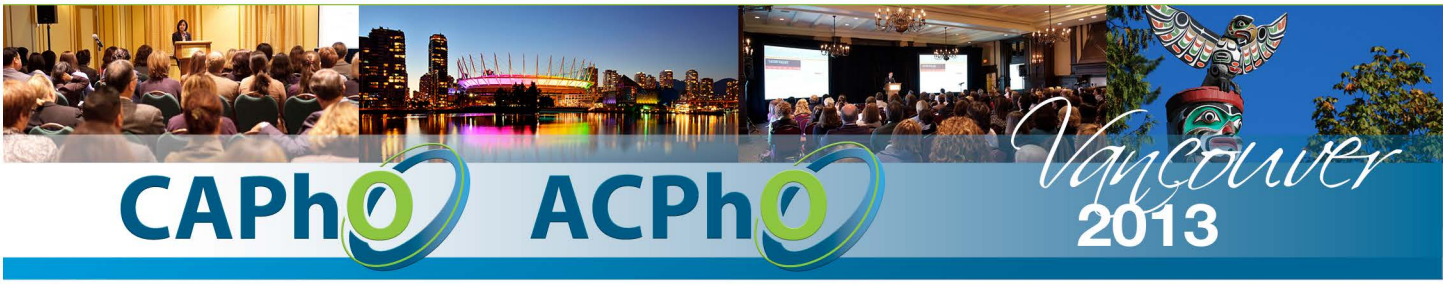

Administration

Specialized Residency Program in Oncology Pharmacy in Montreal

INTRODUCTION: Pharmacy students in Quebec have the possibility to do a Master's Degree in Advanced Pharmacotherapy after their Pharm D Program. This program is of general interest and includes a large variety of rotations. Young pharmacists often feel they still have a lot to learn if they want to work in oncology.

OBJECTIVES: Offer pharmacy residents and pharmacists the opportunity to specialise in oncology by studying in a Specialised Residency Program in Oncology.

DESIGN AND RESULTS: We developed a one-year program at the Centre hospitalier de l'Université de Montréal (CHUM). The program includes 4 and 8-week rotations in our different oncology clinics and units, and an 8-week research project. The rotations involve different interdisciplinary teams (haematology oncology, gynaecologic oncology, digestive oncology, breast cancer team, thoracic oncology, palliative care, etc.). Two rotations, not available at the CHUM, are offered in collaboration with two other centers: paediatric oncology at CHU Sainte-Justine and allogeneic transplant at Maisonneuve-Rosemont Hospital. This program was made available with the help of Roche Canada. One candidate applied for the position and started in March 2013.

CONCLUSION: The program is ongoing and will have its first graduate in February 2014. We are presently recruiting for next year.

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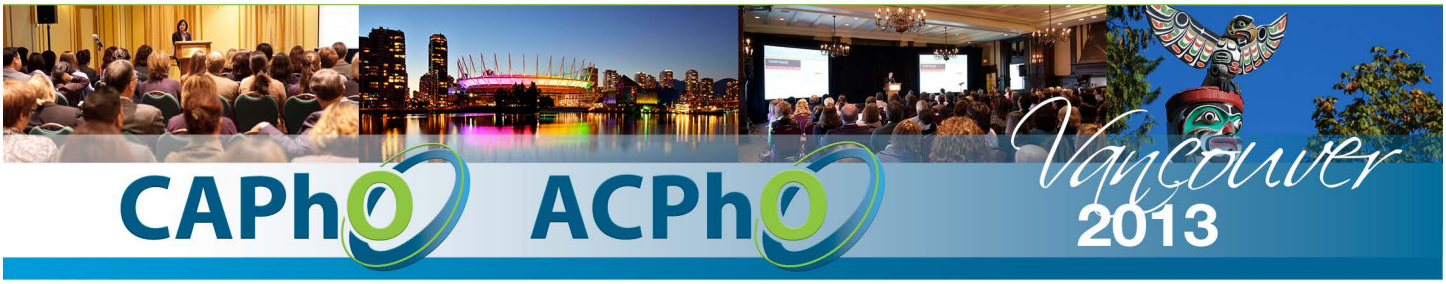

Administration

Impact of Aprepitant on Emesis Control, Dose Intensity (DI) and Recurrence Free Survival (RFS) in Head and Neck Cancer Patients (HNC) Receiving High Dose Cisplatin Based Chemotherapy

BACKGROUND: The standard of care for HNC patients with locally advanced disease is three cycles of high dose cisplatin (> 75 mg/m2) based chemotherapy. However, poorly controlled emesis can compromise maximum DI, which could affect disease control. In this observational study, the impact of aprepitant therapy on emesis control, DI and RFS is described.

METHODS: 192 HNC patients treated within the British Columbia Cancer Agency were identified. Within this sample, 141 patients received aprepitant prophylaxis compared to 51 who did not. RFS was evaluated using the method of Kaplan-Meier and Cox regression modeling adjusted for imbalances in baseline prognostic factors. To control for selection bias that is inherent in observational studies, a propensity score analysis on the RFS outcome was also conducted.

RESULTS: Less vomiting was reported in the aprepitant group (21.3% vs. 28.0%) and they were more likely to complete three full cycles of high dose cisplatin (OR = 2.3, p = 0.03). The propensity score adjusted Cox regression analysis suggested a reduced risk for disease recurrence in aprepitant patients (HR = 0.47, [95%CI: 0.17 to 1.28]).

CONCLUSION: Aprepitant antiemetic therapy contributed to improved vomiting control, enhanced dose intensity and was associated with a potential reduction in disease relapse.

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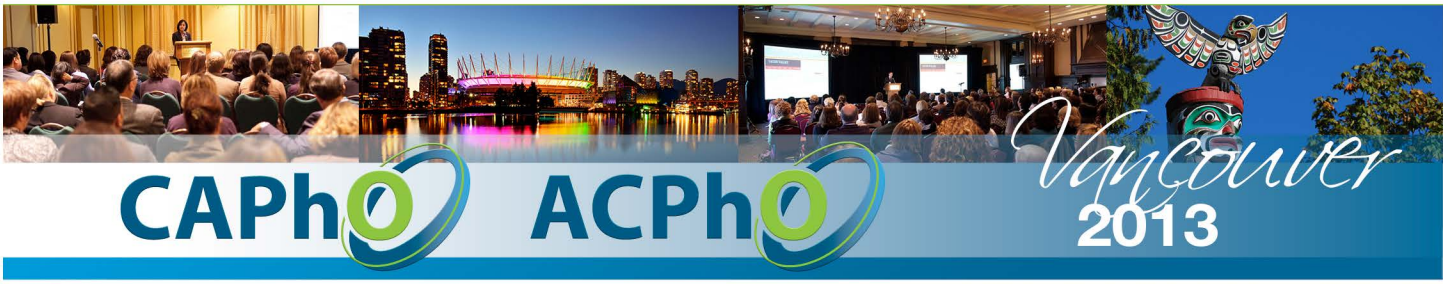

Pharmacy Practice

The Impact of Recruiting Clinical Pharmacists on Patients Receiving Induction Chemotherapy

OBJECTIVE: Head and neck cancer is one of the leading malignancies in Taiwan and the prognosis remains poor in locoregionally advanced patients. The treatment of patients with locoregionally advanced head and neck cancer is still evolving. Induction chemotherapy is one of the treatment modalities in these patients nowadays. However, the complications still coexist including the life threatening or lethal complications.

DESIGN: To reduce the mortality, the clinical pharmacists, clinical nurses, and case managers were recruited to the treatment team of head and neck cancer patients who receive the induction chemotherapy with docetaxel, cisplatin, 5-fluorouracil (TPF).

RESULTS: After recruiting the clinical pharmacists, clinical nurses, and case managers to the team, the mortality rate was reduced significantly. The mortality rates were 28.6% in 4th quarter 2012, 21.4% in 1st quarter 2013 and 12.5% in 2nd quarter 2013.

CONCLUSIONS: Our results suggest that recruiting clinical pharmacists in patients receiving induction chemotherapy reduced the mortality of head and neck cancer patients who receiving the TPF induction chemotherapy.

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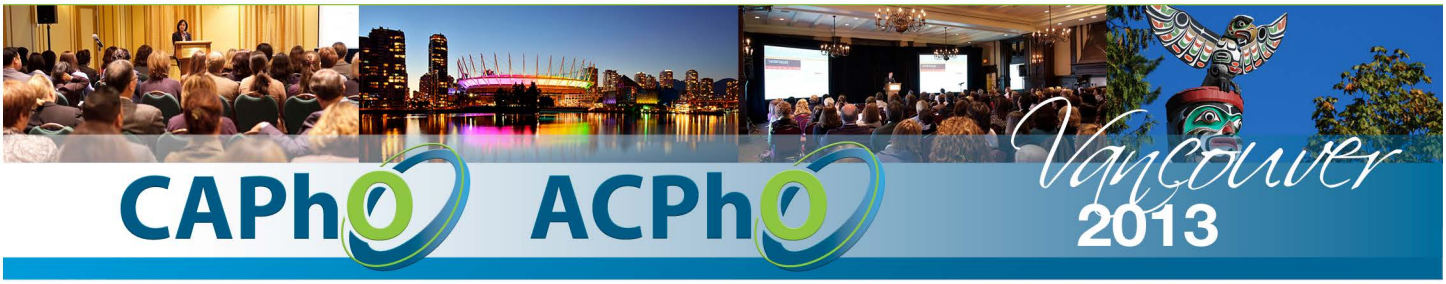

Pharmacy Practice

Group Medical Appointments: A Novel Approach in Patient Education for Adjuvant Endocrine Therapy

OBJECTIVE: We embarked on a pilot program to determine the feasibility and acceptability of group medical appointments (GMA) in estrogen receptor positive postmenopausal breast cancer patients (ERBCP).

METHODS: Since 2010, ERBCP requiring endocrine therapy were referred and scheduled into the biweekly GMA clinic. Education regarding choices, risks, benefits and side effects of endocrine therapy were provided by a nurse practitioner (NP) and/or prescribing pharmacist (RX). After questions were solicited from the group, individual ERBCPs were provided with prescriptions and scheduled for guideline-based follow-up. Patients were asked to complete anonymous evaluations of the clinic.

RESULTS: 366 ERBCPs have attended GMA, upon referrals by their oncologist or nurse practitioner. Surveys indicate high levels of satisfaction with the information provided and the GMA format.

CONCLUSIONS: GMA provided by NP and/or RX is feasible and acceptable to both ERBCPs and oncologists. Health system benefits include increased efficiency and reduced cost, with medical oncology clinics reserved for complex patient needs. Patient benefits include timely access to care and high levels of reported satisfaction.

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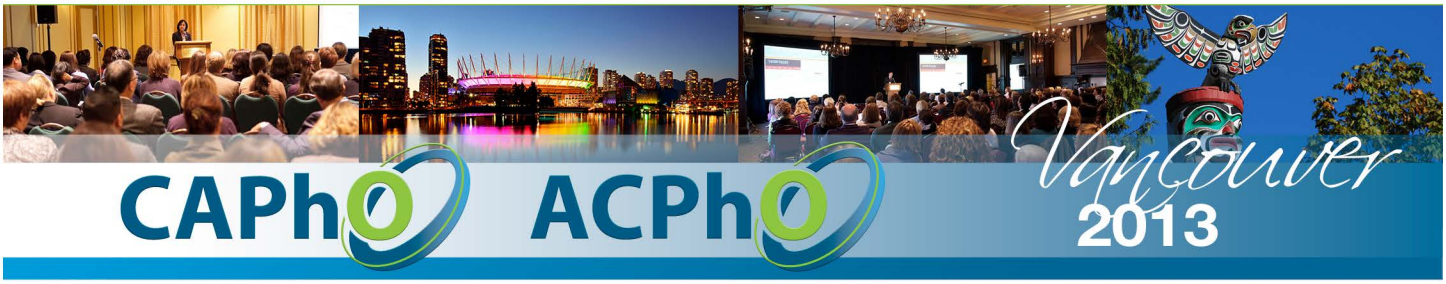

Pharmacy Practice

Development and Implementation of Pre-printed Order Sets to Facilitate the Safe Use of Oral Anti-cancer Drugs in the Ambulatory Setting – A Pilot Project

OBJECTIVE: To improve the safety of oral anti-cancer medications in the ambulatory setting.

DESIGN: The Toronto Central South Regional Systemic Treatment Program recently developed guidelines for the prescribing, dispensing, supply, administration and monitoring of oral anticancer medications. Mount Sinai Hospital was chosen as the site to pilot pre-printed order sets.

RESULTS: Eight pre-printed order sets were created (gefitinib, erlotinib, crizotinib and capecitabine (in combination with epirubicin and cisplatin for gastric cancer, as monotherapy in colorectal and breast cancer, with concurrent radiation for rectal cancer and in combination with lapatinib). The order sets provide a framework for prescribers to ensure that necessary information is available for the dispensing pharmacist to perform verification to the same standards as intravenous chemotherapy. The pre-printed order sets contain the indication, drug name, dosing schedule, height, weight and body surface area where applicable, dose expressed as mg/m^2 as well as actual dose, monitoring parameters, supportive medications, drug coverage and counseling information.

CONCLUSION: The pre-printed order sets were developed in conjunction with Oncology Clinic Staff and the outpatient pharmacy at Mount Sinai Hospital. Outpatient pharmacists were provided with education on the medications, regimens and side effect management. An evaluation will be completed in the coming months.

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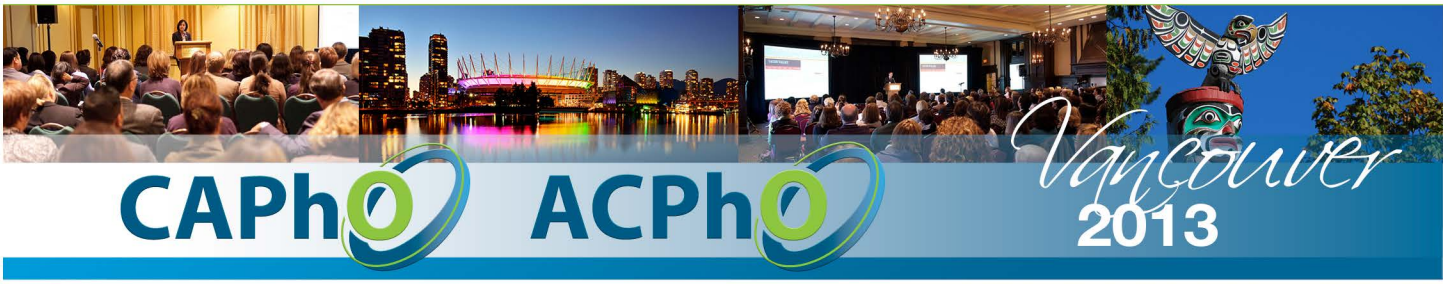

Pharmacy Practice

Potential of Delayed Methotrexate Clearance with Antibiotics

OBJECTIVES: The primary objective was to determine the change in half-life and time to clearance (TTC) of methotrexate (MTX) when administered with a beta-lactam antibiotic. Secondary objectives included describing the effect that antibiotic co-administration had on markers of MTX toxicity, such as leucovorin dosing, serum creatinine and hydration requirements.

DESIGN: Medical records for pediatric patients administered MTX with beta-lactam antibiotics were reviewed retrospectively. Data was collected for the concurrent MTX-antibiotic interaction cycle as well as the MTX cycle prior to and after the interaction. MTX doses, levels, antibiotic administered and time to serum MTX level ≤0.1µmol/L was collected.

RESULTS: A total of seven patients were included, 6 receiving ceftriaxone. The median MTX half-lives for the prior, interaction and post cycles were 4.96 hours, 6.47 hours and 5.68 hours, respectively. Median TTC of MTX for the prior, interaction and post cycles were 72 hours, 88.67 hours and 84 hours, respectively. There were minimal differences seen in other markers of MTX toxicity.

CONCLUSION: In comparison to the prior cycle, increases in half-life and TTC occurred when MTX was administered with a beta-lactam antibiotic. Values returned close to baseline in the post-cycle. Ceftriaxone may marginally increase the half-life and TTC of methotrexate.

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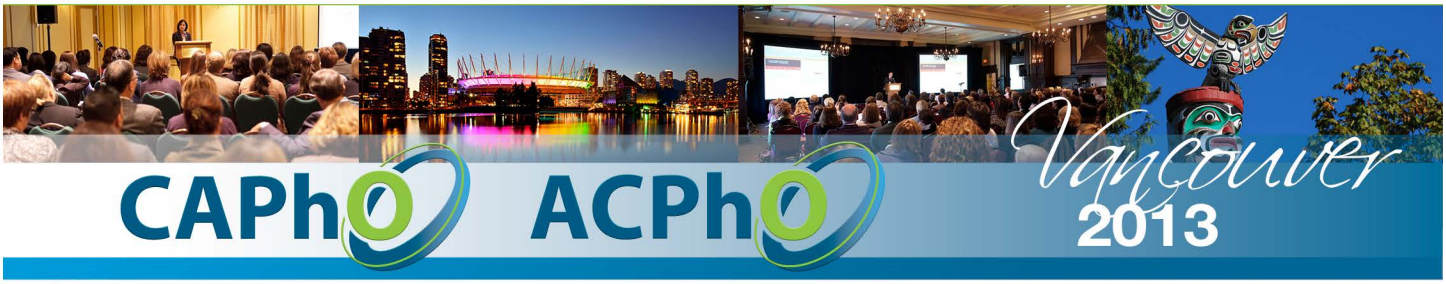

Pharmacy Practice

Integration of a Clinical Pharmacist into a Pediatric Hematology / Oncology / Transplant Clinic

OBJECTIVES: To quantify key activities performed by a newly deployed clinical pharmacist in an outpatient pediatric hematology, oncology, transplant (HOT) clinic. To describe how utilization of the pharmacist evolved, as indicated by the change in frequency of key activities, from the initiation of the role to 4 months after integration into the clinic.

DESIGN: Clinical pharmacists were made consistently available in an outpatient clinic serving HOT patients and their families. A list of key activities, based on provincial clinical pharmacist standards, was created to provide a framework for the role. Over a four month period, the pharmacists recorded the number of times activities were performed.

RESULTS: Over the data collection period, obtaining BPMHs (203), providing medication counselling (150), and creating adherence aids (144) were the most commonly performed activities. In comparison to the first month, key activities increased by 83% in the fourth month. Notably, providing recommendations for drug therapy (156%), assessments of adherence (122%) and BPMH collection (88%) increased considerably.

CONCLUSIONS: The integration of a pharmacist into an outpatient pediatric HOT clinic resulted in the provision of several key clinical pharmacy services. As the role developed, activities were performed more frequently, demonstrating growth in utilization of the pharmacist.

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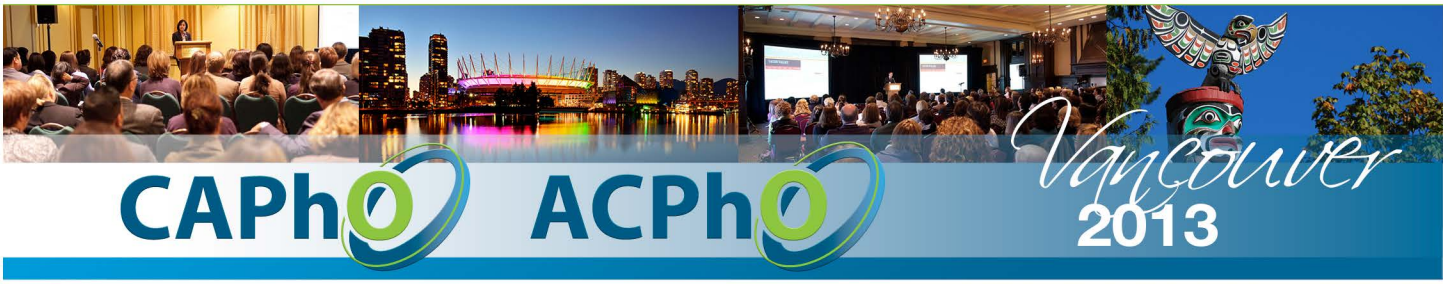

Pharmacy Practice

Using Guideline Adaptation to Update Antiemetic Recommendations in Ontario

OBJECTIVE: Cancer Care Ontario (CCO) last updated their guidance for the management of chemotherapy-induced nausea and vomiting (CINV) in April 2010. Following the strategies for guideline adaptation, the Antiemetic Working Group (Group) reviewed the current literature and made recommendations for the treatment of acute and delayed CINV in adults.

DESIGN: A group of subject matter experts consisting of oncologists, pharmacists and a nurse formed the Group, including representation from outside of Ontario. Relevant guidelines published from three prominent jurisdictions were assessed. The Group focused on the American Society of Clinical Oncology's (ASCO) recommendations and assessed these for currency, quality and applicability in Ontario. A literature search was done to incorporate the latest evidence. All chemotherapy regimens in the Drug Formulary were reviewed. External disease site group experts were consulted but final recommendations were reached by consensus among the Group members.

RESULTS: Recommendations for antiemetic agents to be used in highly (HEC), moderately (MEC), low and minimal emetic risk chemotherapy are outlined. The Group adapted many of ASCO's recommendations but differed on some key recommendations.

CONCLUSION: A systematic approach, including adaptation of the ASCO guideline, resulted in evidence-informed recommendations that are broadly applicable.

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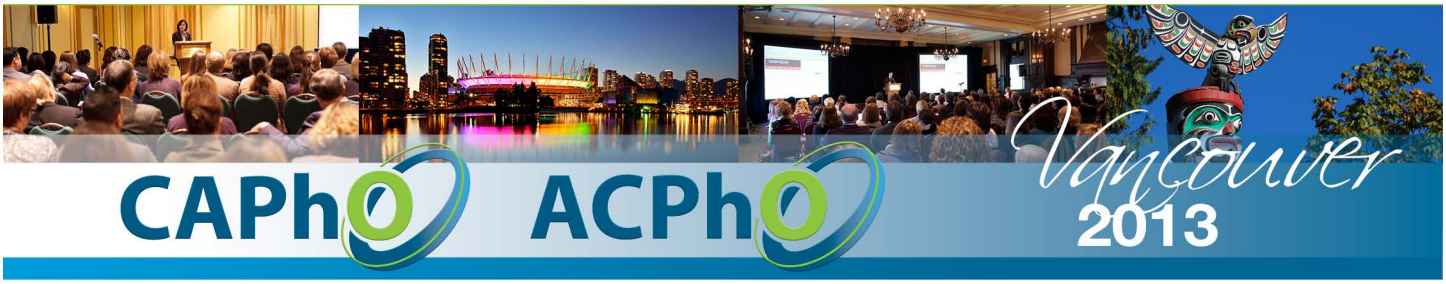

Pharmacy Practice

Impact of Pharmacist Intervention in Patients Receiving Oral Chemotherapy Agents

Patients receiving oral chemotherapy agents often require multiple concomitant medications for management and treatment of side effects and comorbidities. Drug interactions involving oral chemotherapy agents have the potential to enhance toxicities or to negate beneficial effects of therapy. Little information is available on the actual incidence and significance of actual or potential drug interactions involving oral chemotherapy agents in clinical practice.

OBJECTIVE: To identify and classify drug interactions identified by oncology pharmacists during oral chemotherapy patient teaching sessions, and to evaluate patient benefit from such sessions.

DESIGN: Oncology pharmacists at Saint John Regional Hospital provided counselling and medication review for patients at the study site upon initiation of therapy with a new oral chemotherapy agent. Drug interactions identified were classified in terms of category and severity. Patients completed a pre- and post-appointment questionnaire to assess understanding of their chemotherapy regimen and satisfaction of the service provided by pharmacists.

RESULTS: Pharmacists identified one or more drug interactions for 67% of patients receiving oral chemotherapy. Patients reported satisfaction, as well as significant improvement in overall understanding of their chemotherapy regimen after pharmacist-led teaching.

CONCLUSION: Patients receiving oral chemotherapy agents benefit from medication review and counselling performed by oncology pharmacists.

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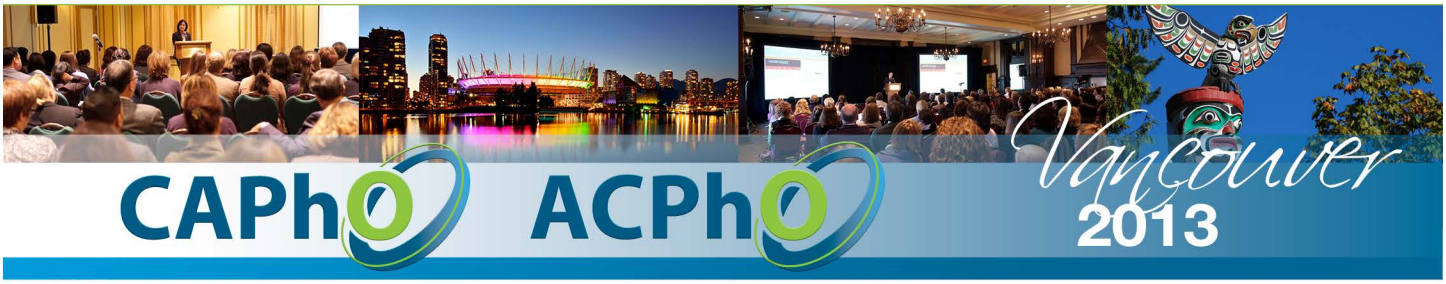

Pharmacy Practice

Generic Imatinib: Review of the Literature on Clinical Efficacy

BACKGROUND: Generic imatinib has been approved for chronic myeloid leukemia by Health Canada (HC) and European Medicines Agency (EMA). There are anecdotal concerns of reduced efficacy related to the crystal forms of generic imatinib (alpha) vs. GLEEVEC® (beta).

METHODS: Literature search from MEDLINE/EMBASE, HC/EMA approved generic imatinib product monographs and EMA assessment reports were reviewed.

RESULTS: No difference in efficacy has been reported with HC/EMA approved generic imatinib. Reports from Middle Eastern countries described different efficacy with copy versions of imatinib. Four reports (total N=5) described hematologic relapse, one published case series reported 90% response (N=30) and one case series presented as abstract reported 33% relapse (N=126). Crystal forms were mostly unspecified. Both crystal forms have been reported to be highly soluble and readily absorbed orally.

DISCUSSION: Contradictory reports of reduced efficacy have been limited to copy versions of imatinib with unclear bioequivalence to GLEEVEC®. Difference in crystal forms seems unlikely to affect pharmacological effect, since HC/EMA approved generic imatinib have similar serum imatinib levels to GLEEVEC® after oral ingestion.

CONCLUSIONS: There is no clinical evidence that HC approved generic imatinib is less effective than GLEEVEC®. Different crystal forms seem unlikely to affect clinical efficacy once bioequivalence is established.

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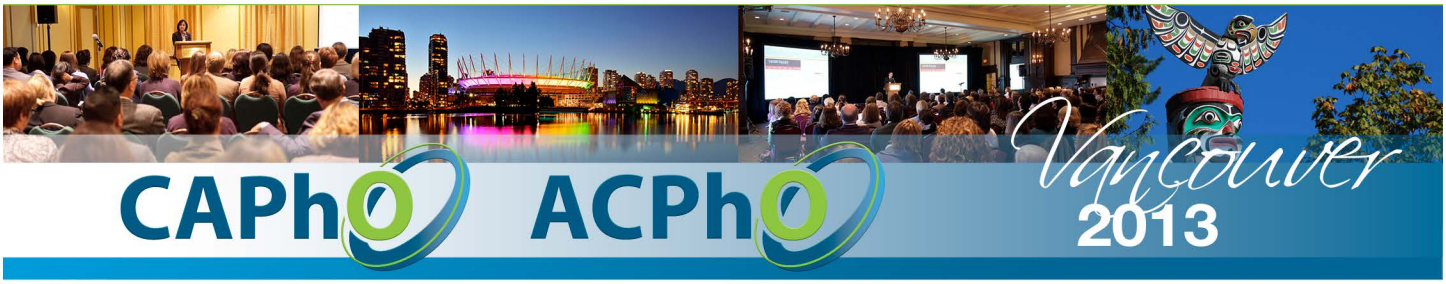

Pharmacy Practice

An Oral Chemotherapy Call Back and Assessment Program

INTRODUCTION: The Ottawa Hospital Cancer Centre (TOHCC) implemented a call back and assessment program for patients prescribed oral chemotherapy and targeted therapy. This is a description of the steps taken to implement the program as well as the details of the documentation and communication that this generates.

DESIGN: In September 2012, TOHCC began the process of implementing the program. MASCC Oral Anticancer Teaching Tool (MOATT) documents were created for each medication that was to be included in the call back program. This allowed a standardized set of information to be conveyed to the patient. In order to manage the call back program, MOSAIQ (an Oncology Information System) was set up to keep track of the call backs as well as the electronic documentation. MOSAIQ Quality Checklist (QCLs) were set up to plan for the timing of the call backs based on the expected side effects for the different classes of medications.

RESULTS: Since February 2013, more than 250 patients have been assessed by a pharmacist, and more than 400 call backs have been successfully completed.

CONCLUSION: A rigorous call back program has been implemented to improve the safe treatment of patients with oral chemotherapy.

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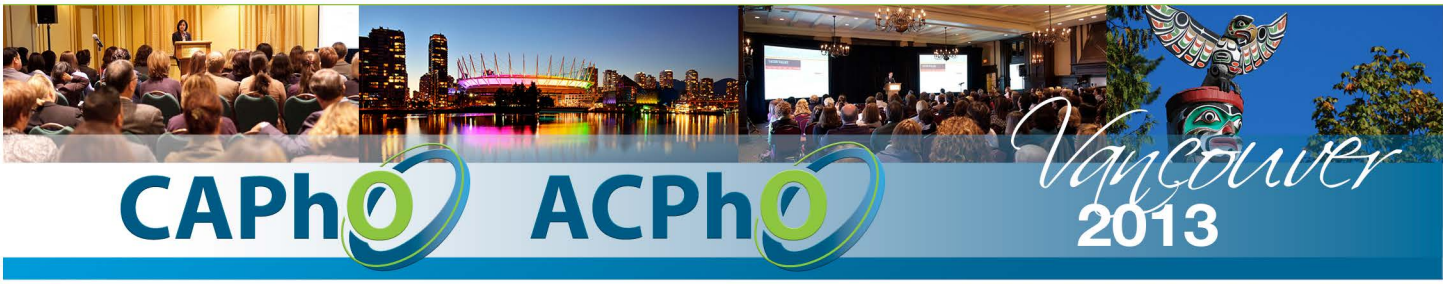

Pharmacy Practice

Implementation of Clinical Pharmacy Services at the Jack Ady Cancer Centre

OBJECTIVE: To implement clinical pharmacist services for new patients seen at the Jack Ady Cancer Centre.

DESIGN: Approval for temporary funding for one full-time pharmacy position was received to complete a demonstration project of clinical pharmacist services. The following select targeted services were chosen for the demonstration project:

- initial pharmacist consultation/assessment and medication reconciliation
- recommendations on antiemetics for patients starting on chemotherapy
- patient teaching on appropriate antiemetic use
- patient follow up on nausea and vomiting control

RESULTS: Clinical pharmacist services were initiated April 1, 2013 for 4 new patient clinics each week supporting 2 medical oncologists. Pharmacists provide clinical services to 2-4 new patients daily. On average each month, 22 medication reconciliations are completed and 44 unintended discrepancies identified. Pharmacists teach patients on antiemetic use and complete follow up phone calls with patients to assess degree of acute and delayed nausea and vomiting. Phone calls have also resulted in patients consulting pharmacists regarding other medication concerns.

CONCLUSION: Initial feedback from medical oncologists, nurses, and patients on pharmacist clinical services has been positive. Formal evaluation of the demonstration project will be completed later this year including surveys of staff and patients.

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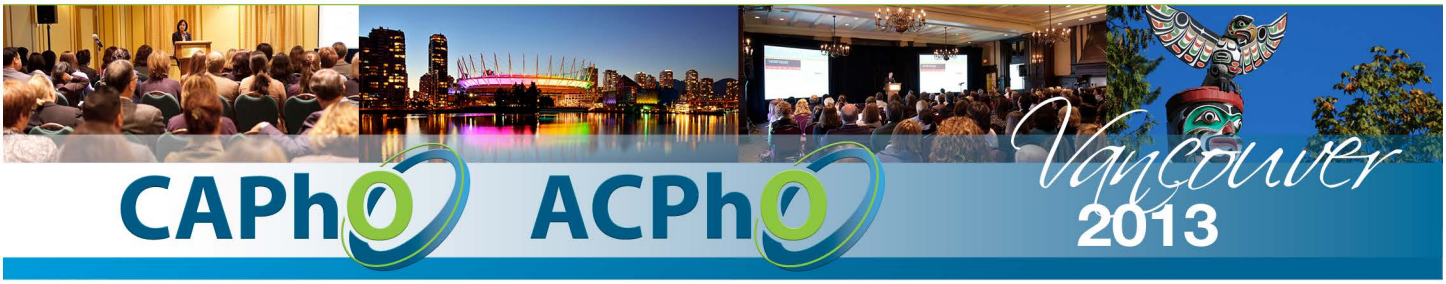

Pharmacy Practice

What Doses Should Our Chemotherapy Robot Prepare?

OBJECTIVE: In December 2012, the pharmacy department at Princess Margaret (PM) Cancer Centre produced the first chemotherapy dose for patient administration in Canada using Robotic IV Automation (RIVA). Robotic technology in sterile chemotherapy drug preparation aims to enhance patient and staff safety while promoting operational efficiency. For the implementation, PM Pharmacy developed a list of criteria to identify the cancer treatment drugs to be prepared by RIVA. The drug list was used to guide the ramp up during implementation.

DESIGN: To accurately define a drug selection process, the pharmacy team analyzed the strengths and technological limitations of RIVA and considered the prescribing and drug distribution workflow for both just-in-time and next day model of care. The team then developed specific selection criteria for chemotherapy drugs that would benefit from RIVA production.

RESULTS: All chemotherapy drugs used at PM were identified and categorized based on the selection criteria that included frequency of use, supply format, presence of barcodes, drug stability, usual dose volume, applicable dispensing format, and cost. The drugs were then grouped in sequence for production ramp up.

CONCLUSION: As of September 2013, we have implemented the drugs in our first phase with over 9 hazardous drugs.

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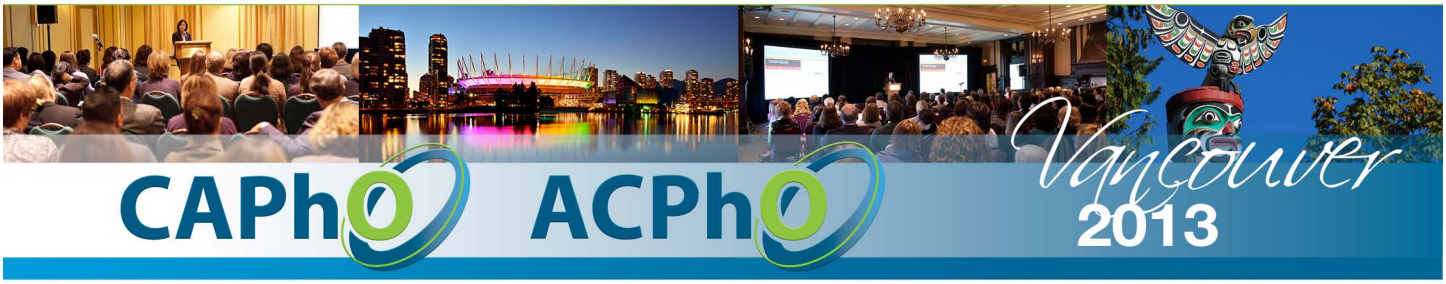

Research

Tolerability of Velcade (Bortezomib) Subcutaneous Administration Using a Maximum Volume of 3 Ml Per Injection Site

OBJECTIVE: To determine the tolerability of bortezomib subcutaneous (SC) injection up to a maximum volume of 3mL per injection site.

DESIGN: Prospective study evaluating a change from IV to SC administration of bortezomib 1mg/mL given at a higher maximum of 3mL per injection site. Patients were new to bortezomib or switched from IV. We evaluated systemic and injection site reactions.

RESULTS: 339 doses were administered to 57 patients over 3 months. Skin reactions were noted in 41.6%, with all reactions being grade 1 or 2. Patients tolerated SC injections well, and only 3 patients were switched back to IV due to grade 2 skin reactions. One patient was switched back to IV due to nausea, and another due to preference. This is the first time that SC bortezomib of a volume up to a maximum of 3 mL (or 3mg of bortezomib) per injection site has been reported.

CONCLUSION: This higher single dose is well tolerated with limited skin reactions, no significant hypotension and facilitates ease of administration with only 5 patients needing 2 injections per visit. If the maximum volume for injection was kept at 2mLs, a total of 46 patients would receive 2 injections per visit.

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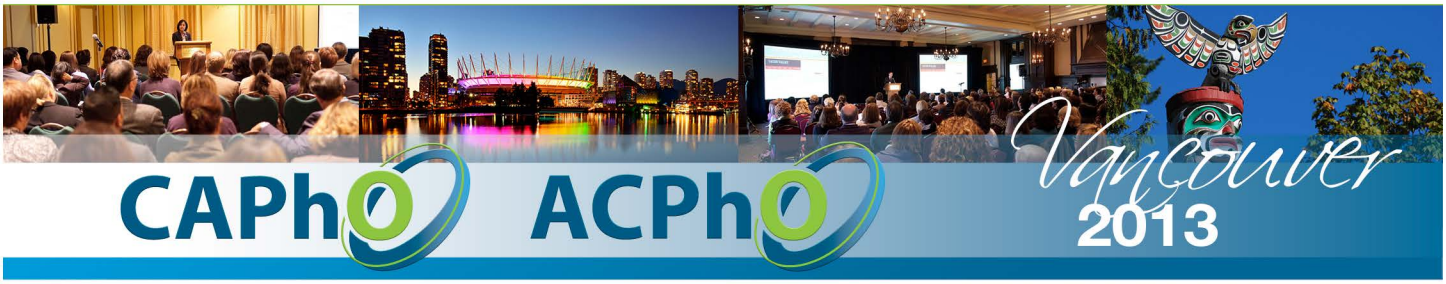

Research

Persistent Diarrhea Secondary to Neurolytic Celiac Plexus Block: Case Report and Literature Review

OBJECTIVE: Neurolytic celiac plexus block is commonly used to treat refractory pain associated with abdominal malignancies, especially pancreatic cancer. While self-limiting diarrhea can occur commonly post procedure, a very rare risk of persistent diarrhea exists. We present a case of a 70 year old female with locally advanced pancreatic adenocarcinoma who was hospitalised for persistent severe diarrhea post celiac nerve block. We also conducted a review of the current literature to discuss management of this condition.

DESIGN: We conducted a literature search in PubMed and Medline (Ovid) for any relevant articles published within the last 10 years.

RESULTS: 45 entries were found in total and 6 were included for relevance, consisting of mainly reviews and case reports. Discussed therapeutic alternatives included antimotility agents, alpha-adrenergic agonists, and somastatin analogs. Our patient was initially treated with loperamide, hyoscine, psyllium, and cholestyramine before responding to octreotide. Patient was discharged on long-acting octreotide after her bowel routine was stabilised.

CONCLUSION: Persistent diarrhea is a very rare complication of celiac nerve block and current literature regarding proper management is based largely on anecdotal evidence. From our experience octreotide seems to be an effective agent for the management of this complication.

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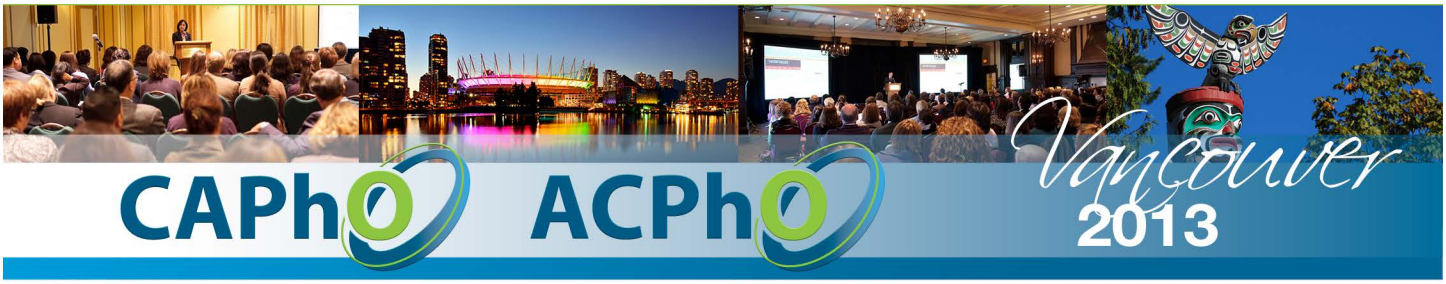

Research

Surveying the Patient Education Landscape at BCCA

OBJECTIVE: Patient education interventions are an essential component of support for people undergoing treatment for cancer. An interprofessional group will survey the landscape of patient education at British Columbia Cancer Agency (BCCA) and generate a report that will roadmap future directions to improve this important aspect of patient care.

DESIGN: A three-phase, mixed methods approach will be used to examine the subject from multiple perspectives. After identification of key stakeholders, an environmental scan will be performed, along with a comparison of internal processes with the framework outlined by the Canadian Partnership Against Cancer (CPAC) for patient education. There will be focus groups followed by a provincial survey regarding BCCA staff attitudes and perceptions related to patient education.

RESULTS: A final report will be prepared based on the data collected and will summarize areas requiring improvement in patient education at BCCA. This report will be presented to BCCA Leadership.

CONCLUSION: It is anticipated that the final report will clearly identify areas requiring improvement in patient education at BCCA when compared to the recommendations made in the CPAC Framework for Cancer Patient Education Programs. If the findings warrant, the report will include concrete recommendations toward the development of a formal cancer patient education program at BCCA.

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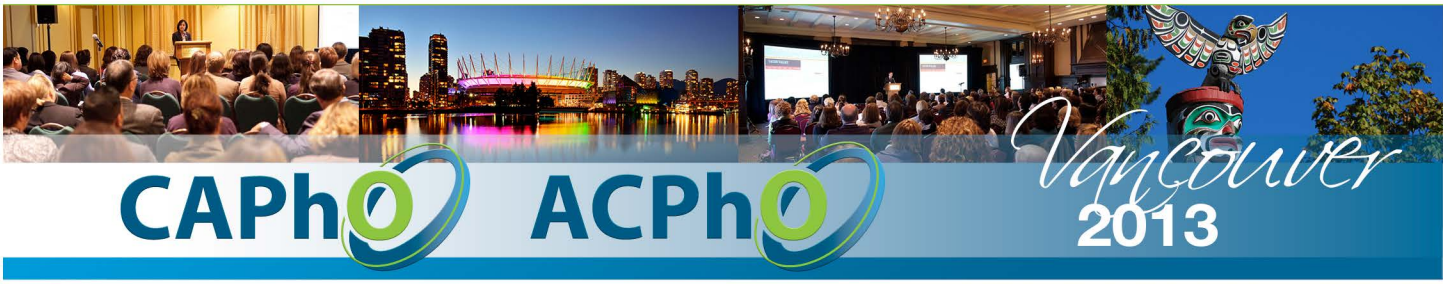

Research

Survival Outcomes Associated with Different Sunitinib Dosing Regimens in Metastatic Renal Cell Carcinoma

BACKGROUND: Standard sunitinib dosing for metastatic renal cell carcinoma (mRCC) consists of 4-week treatment followed by 2-week rest (intermittent dosing, ID). Alternative regimens have been suggested, including continuous daily dosing (CD) and non-conventional dosing (ND, e.g. 2-week treatment followed by 1-week rest) to provide individualized therapy with less toxicity.

OBJECTIVE: To investigate whether non-standard sunitinib dosing affects survival outcomes.

METHODS: mRCC patients treated with sunitinib between July 1, 2007 and July 1, 2011 were identified from a provincial pharmacy database. Medical records and dispensing data were reviewed retrospectively.

RESULTS: Of 180 patients, most received ID (n=120), followed by CD (n=32) and ND (n=28). Compared to ID, CD was associated with similar median OS (9 vs. 13 months, HR 0.67, 95% CI 0.43-1.06, p=0.088) while ND was associated with significantly longer median OS (9 vs. 23 months, HR 0.55, 95% CI 0.34-0.90, p=0.016). Median PFS was significantly better with CD (4 vs. 9 months) and ND (4 vs. 10 months) when compared to ID. Similar to prior trials, 20% of patients discontinued sunitinib due to adverse effects.

CONCLUSIONS: Compared to the standard ID regimen, alternative sunitinib dosing regimens appear to be associated with improved OS and PFS in patients with mRCC.

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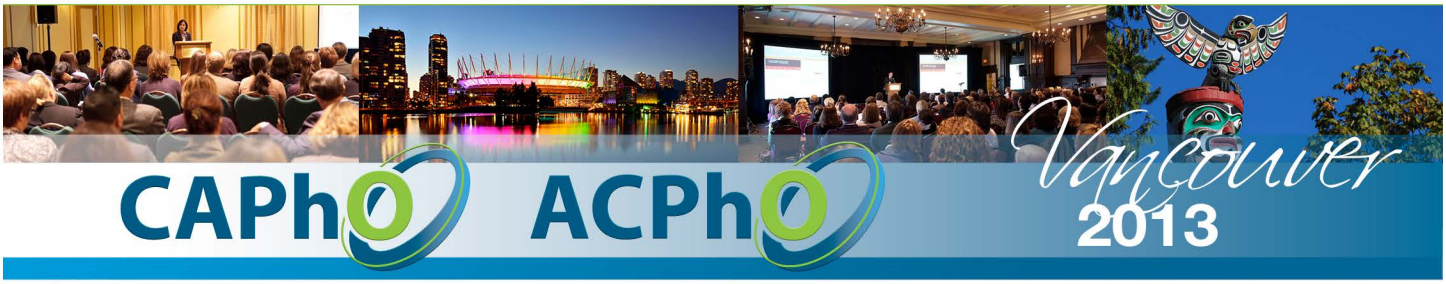

Research

Early Discontinuation and Adherence to Adjuvant Aromatase Inhibitor Therapy in Breast Cancer

OBJECTIVE: The objectives of this study were to investigate the proportion of breast cancer patients receiving an aromatase inhibitor (AI) at the Cross Cancer Institute (CCI) who discontinued adjuvant endocrine therapy earlier than recommended, and what proportion of patients were adherent to AI therapy.

DESIGN: A retrospective review of patient charts and pharmacy dispensing records was performed. The study population included postmenopausal females with hormone receptor positive breast cancer, treated with curative intent, initiating adjuvant endocrine therapy with an AI in 2006-2007. Early discontinuation was defined by the date of last prescription refill not reaching the intended last day of therapy. Adherence was defined by a medication possession ratio (days covered by prescription refills/days between first and end of last prescription filled) ≥ 80%.

RESULTS: Out of 393 patients, 166 (42%) discontinued therapy early. Of the patients that completed therapy, 202 (89%) were adherent to therapy. Patients on the primary and extended AI regimens were found to be more likely to discontinue therapy early.

CONCLUSION: The vast majority of breast cancer patients at the CCI were adherent to AI therapy, but early therapy discontinuation rates are substantial. Further research is needed to identify why people discontinue therapy earlier than recommended.

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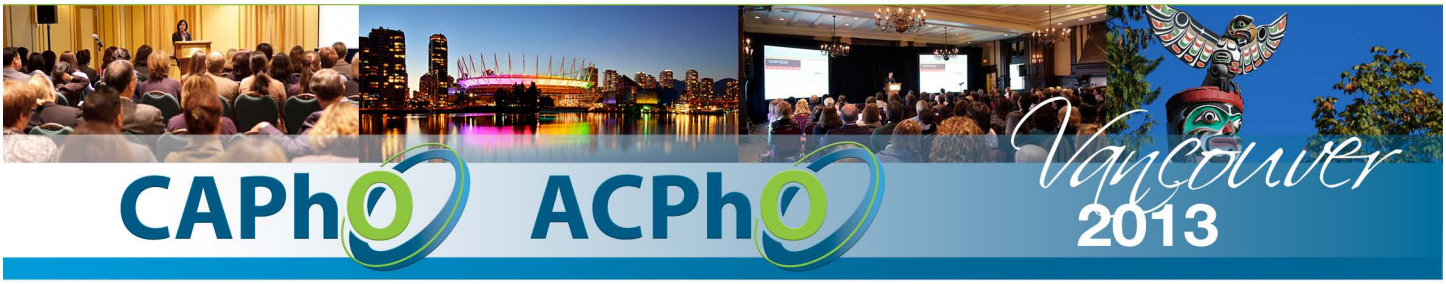

Research

A Quebec-based Retrospective Chart Review on the Use of Oxaliplatin-based Chemotherapy in First Line Metastatic Colorectal Cancer (1L mCRC)

OBJECTIVE: To address the scarcity of real-world data, in Quebec, on oxaliplatin-based chemotherapy in 1L mCRC, a chart review was conducted to validate treatment patterns.

DESIGN: From January 2010 to December 2011, data from 90 patients from the Jewish General Hospital were collected on number of cycles of 1L mFOLFOX6 or XELOX, relative dose intensity (RDI), impact on liver metastases resection and subsequent chemotherapy use.

RESULTS: Median age was 63; 61% were male and 92% were ECOG 0/1; 56% had colon primary; 30% had liver metastases only, 16% had liver metastases with extrahepatic disease; 47% extrahepatic disease only. 60% received mFOLFOX6 (mean cycles 9.6, RDI 92%). 40% received XELOX (mean cycles 6.8, RDI 84%); both given for 25 weeks on average. 41% mFOLFOX6 and 31% XELOX received bevacizumab concomitantly (mean cycles 9.8/5.1, RDI 92%/98%, respectively). 80% received palliative 1L chemotherapy; 20% for potential curative intent of which 78% underwent R0 resection. Data on patients going to 2L were still not mature; however the majority received FOLFIRI or participated in clinical trials.

CONCLUSION: These results show the high efficacy and good tolerability of mFOLFOX6 and XELOX regimens, in line with registration trials.

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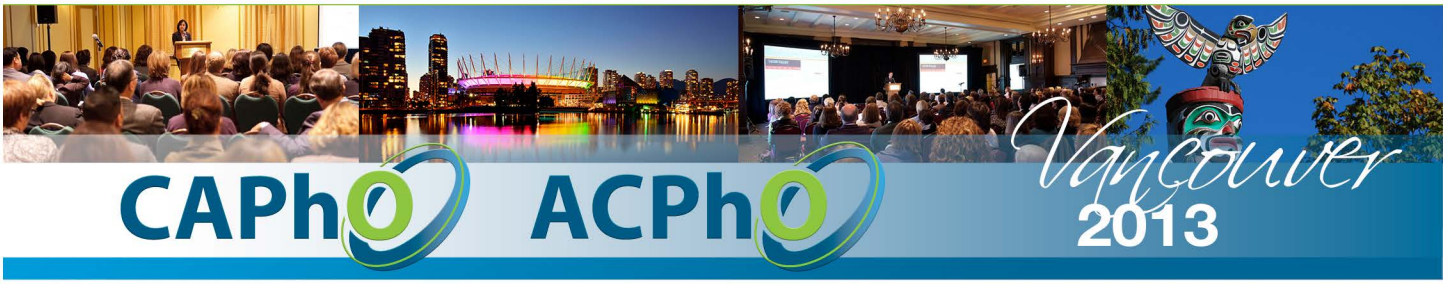

Research

A Snapshot of Metastatic Colorectal Cancer Therapy

INTRODUCTION: The Ottawa Hospital Cancer Centre is referred approximately 700 new cases of Colorectal Cancer (CRC) annually. Treatment options have increased for adjuvant and metastatic CRC (mCRC). This project sought to produce a snapshot of patient (pts) therapy for mCRC diagnosed in 2010 and 2011.

METHODS: Treatment data for patients diagnosed with de-novo or recurrent mCRC was extracted from Oncology Patient Information System (OPIS). The sequencing of therapy was assigned via algorithms within MS Excel.

RESULTS: From 2010 – 2011, 476 patients with mCRC were identified; 248 of these patients diagnosed with de-novo mCRC. 77 patients received no therapy for their mCRC; the remainder (399/476, 84%) received systemic therapy as guided by Ontario's funding model at that time. 1st line therapy was Irinotecan-Based in 244 patients and Oxaliplatin-based in 92 patients. Bevacizumab was used in 207 patients. Sixty one patients received 1st line capecitabine therapy. 168 patients (42%) received 2nd line therapy with the majority (113 patients) receiving Oxaliplatin-based therapy. Very few patients (18%, 71/399) received monoclonal anti-EGFR therapy in the 3rd+ line setting.

CONCLUSION: Treatment options for mCRC are increasing. Many patients derive long-term benefit from systemic therapy.

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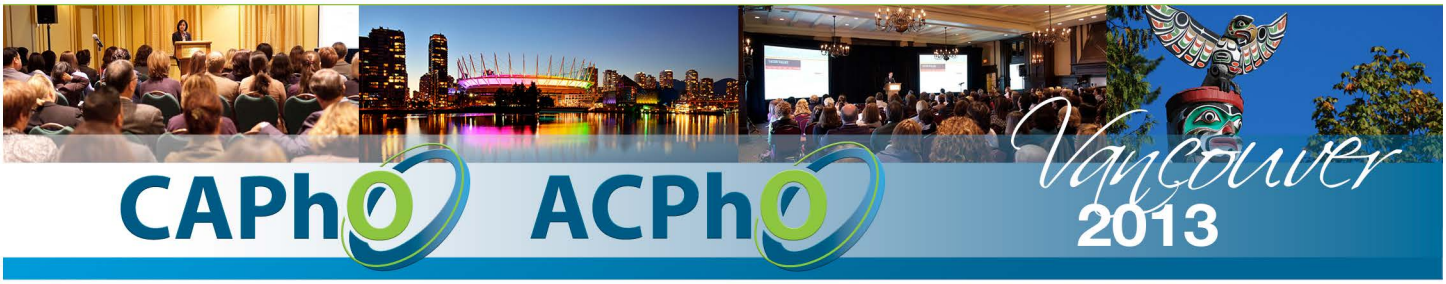

Research

Capecitabine Adherence Review at the BC Cancer Agency Using Prescription Refill Data

Non-adherence is important with the increasing use of oral anticancer drugs. Most research has used self-reporting, pill counts, and microelectronic monitoring systems, none of which fully identifies the actual adherence. We report the feasibility of applying computer programming to prescription refill data to evaluate capecitabine adherence.

METHODS: Capecitabine pharmacy prescription records from five BC Cancer Agency centres over 2 years were reviewed. Exclusion criteria included: treatments involving radiation, clinical trials, non-standard protocols, or multiple concurrent protocols. Computer algorithm was developed to predict the refill date and compare to the actual refill date. Non-adherence was defined as actual refill date more than +1 or -6 days of the predicted date unaccounted for after electronic chart review.

RESULTS: 894 patients were eligible: 36.4% male, median 66 years, gastrointestinal cancer 62.5%, breast cancer 37.5%. A total of 6,880 prescriptions representing 4,416 refill dates were reviewed, with 845 (19%) having different predicted vs. actual refill dates. This was reduced to 555 (13%) after adjusting for clinical, scheduling, or patient choice reasons during chart review.

CONCLUSIONS: Pharmacy prescription records may be useful as an initial screening to evaluate non-adherence to capecitabine. Further clinical chart review may be needed to ascertain an accurate non-adherence rate.

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