CAPhO ACPhO

The Canadian Association of Pharmacy in Oncology presents

CAN WE TALK?

CAPhO Conference 2016

L'Association canadienne de pharmacie en oncologie présente

ET SI ON SE PARLAIT?

Congrès de l'ACPhO 2016

April 14-17 | Du 14 au 17 avril

Sheraton on the Falls Hotel, Niagara Falls, Ontario

Niagara Falls

2016

Onsite Program
Programme

www.capho.org #CAPhOCon16 www.acpho.org

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SeattleGenetics

MODERATOR:

Flay Charbonneau
RPh, BScPharm

Manager, Pharmacy
Odette Cancer Centre
Toronto, Ontario

PRESENTER:

Scott Berry
MD, MHSc, FRCPC

Associate Professor,
University of Toronto
Medical Oncologist
Odette Cancer Centre
Toronto, Ontario

PRESENTER:

Gabriel Gazzé
BPharm, DPH

Oncology Pharmacist
Royal Victoria Hospital
McGill University Health Centre
Montreal, Quebec

PRESENTER:

Scott Edwards
PharmD, MSc (Oncol)

Clinical Oncology Pharmacy
Specialist
Cancer Care Program,
Eastern Health
Assistant Professor,
Memorial University
St. John's, NL

Satellite Symposium I Friday April 15th I 2:00 pm – 3:30 pm

CAPhO Conference 2016

OPTIMIZING PATIENT OUTCOMES IN PANCREATIC CANCER THERAPY

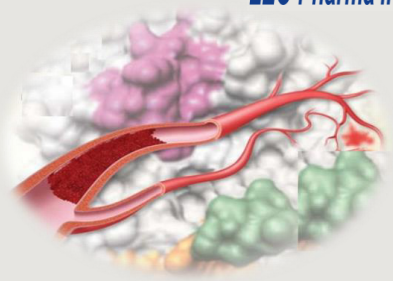
Learning Objectives:

1. To evaluate the goals of treatment and current therapeutic options for the management of advanced pancreatic cancer in Canada
2. To identify and discuss practical strategies for the optimal management of advanced pancreatic cancer patients
3. To review a newly created educational program for oncology pharmacists on advanced pancreatic cancer

CAPhO Satellite Symposium
LEO Pharma Inc.

Challenges in the treatment of

Cancer -associated Thrombosis



Latest evidence and practical approaches to management

Jay Easaw, M.D., PhD.

Assistant professor in the Division of Medical Oncology at the Tom Baker Cancer Center, Calgary, AB.

Date: Friday, April 15, 2016
Time: 10:30 am – 12:00 pm
Place: Strategy Room 3, 5th Level
Sheraton on the Falls Hotel,
Niagara Falls, ON

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

Learning Objectives:

- Examine the latest **clinical evidence** in CAT
- Review the **new Canadian guidelines** in CAT
- Explore **practical considerations** for management, including drug-interactions, risk assessment, and duration of therapy

LEO

Welcome Message from the CAPhO President

Welcome to Niagara Falls and CAPhO Conference 2016!

This year's theme is 'Can We Talk?' Well we know that we in the pharmacy field can talk…but this theme is meant to encourage pharmacists and pharmacy technicians to move outside the walls of the pharmacy to engage in meaningful dialogue with patients and our health care colleagues that we work side by side with.

As you know, the world of oncology pharmacy is in constant flux. Cancer treatments are personalized and protocols are becoming more complex. There are more and more new cancer treatments available on the Canadian market. The Canadian population is aging; cancer incidence is increasing; patients are living longer with cancer; the cost of delivering cancer treatments is pushing us to non-sustainable limits. Oncology pharmacists and technicians in collaboration with other healthcare professionals, have more opportunities to engage directly with oncology patients, thus improving overall patient care. CAPhO Conference 2016 covers a wide range of topics for oncology pharmacy practitioners and provides an excellent opportunity to network with peers.

And speaking of occasions for dialogue …come and take part in your Association. The CAPhO Annual General Meeting will be held on Saturday at noon, there is a CAPhO Booth in the foyer area, and we have once again scheduled the popular CAPhO Town Hall Breakfast meeting for Sunday morning at 8:30 for some lively discussion!

I would encourage you to attend the social events that are planned; starting with the Welcome Reception on Friday evening at 5:15pm - an excellent opportunity to talk to peers and the CAPhO Conference 2016 exhibitors earlier in the program. The fun Evening Social Event will take place as usual on Saturday night showcasing none other than the Niagara Falls.

A BIG thank you goes out to our generous sponsors for their continued support of this important Conference. We encourage you to take the time to visit the exhibits and speak with the sponsor representatives. This is a great opportunity to learn about new services and products that may benefit your patients.

The 2016 Conference Chair - Biljana Spirovski, the CAPhO Conference 2016 Planning Committee and Sea to Sky have organized an outstanding program and I would like to thank them all for their commitment of time and effort.

On behalf of the CAPhO Executive, we hope you enjoy CAPhO Conference 2016!

Joan Fabbro
CAPhO President

Mot de bienvenue de la présidente de l'ACPhO

Bienvenue à Niagara Falls et au Congrès de l'ACPhO 2016!

Le congrès de cette année a pour thème « Et si on se parlait? ». Nous savons que le dialogue est présent dans le domaine de la pharmacie, mais nous voulons aller un peu plus loin et inviter les pharmaciens oncologues et les techniciens en pharmacie à engager un dialogue significatif avec les patients et les professionnels de la santé avec qui nous collaborons étroitement.

Comme vous le savez, le milieu de l'oncologie est en évolution constante. Les traitements contre le cancer sont adaptés à chaque patient et les protocoles gagnent en complexité. De plus en plus de nouveaux traitements sont offerts sur le marché canadien, la population du Canada vieillit, l'incidence du cancer augmente, les patients atteints du cancer vivent plus longtemps, le coût des traitements nous pousse vers des limites insoutenables. Les pharmaciens oncologues et les techniciens en pharmacie, en collaboration avec d'autres professionnels de la santé, ont plus d'occasions d'intervenir directement auprès des patients cancéreux, ce qui améliore l'ensemble des soins prodigués à ces derniers. Le Congrès de l'ACPhO 2016 traite d'un éventail de sujets prometteurs pour les praticiens de pharmaco-oncologie et offre d'excellentes occasions de réseautage.

Parlant d'occasions de réseautage, nous vous invitons à assister à l'assemblée générale annuelle de l'ACPhO, qui aura lieu le samedi à midi, ainsi qu'à visiter le stand de l'ACPhO dans la salle d'exposition et à participer à notre populaire déjeuner-conférence le dimanche à 8 h 30 pour une discussion animée!

Je vous encourage également à participer aux activités sociales prévues au programme, notamment à la réception d'accueil du vendredi à 17 h 15, où vous pourrez rencontrer des exposants avant l'ouverture officielle du Congrès de l'ACPhO 2016, et à notre soirée spéciale du samedi où les chutes du Niagara.

Nous tenons à remercier du fond du cœur nos généreux commanditaires pour leur appui soutenu à ce congrès important. Nous vous invitons à visiter leur stand d'exposition et à parler avec leurs représentants. Il s'agit d'une occasion unique de connaître les nouveaux produits et services qui pourraient profiter à vos patients.

La présidente du congrès de 2016, Biljana Spirovski, le comité de planification du Congrès de l'ACPhO 2016 et Sea to Sky ont mis sur pied un programme exceptionnel et je tiens à les remercier pour leur engagement et leur dévouement.

Au nom de la direction de l'ACPhO, je vous souhaite un bon Congrès de l'ACPhO 2016!

Joan Fabbro
Présidente de l'ACPhO

Welcome Message from the Conference Chair

It is my great pleasure to welcome you to the CAPhO Conference 2016 in the iconic Niagara Falls. This largest educational event for oncology pharmacists and pharmacy technicians takes us around the country every year for three days of learning, networking and enjoying different surroundings with colleagues and friends.

The CAPhO 2016 Planning Committee has worked hard on the program development to meet the needs of both new and experienced pharmacy practitioners.

Our theme Can We Talk? is an open invitation to effective communication, not only with our patients and their caregivers, but other healthcare professionals as well, in order to improve the delivery of personalized cancer care of the 21st century. Right from the opening plenary, there is a lineup of relevant and stimulating topics carefully selected to enhance our knowledge and ability to empower our patients.

It would be hard to find a better backdrop for this learning experience than the powerful, world renowned Niagara Falls. Our Conference venue is located right above the famous natural wonder and you will be able to enjoy the sight and sound of the Falls throughout the day. Our social activities will include tastings of regional food and wine and we invite you to extend your stay and partake in the many other sightseeing opportunities that the Niagara Region has to offer.

On behalf of the Planning Committee, we wish to acknowledge all the presenters for their time and effort, and our industry partners for their educational contribution and continued support.

It has been a great privilege for me to serve as the CAPhO 2016 Conference Chair, an impossible endeavor without the help from the members of the Planning Committee and the CAPhO Executive.

I hope that you find the Conference both stimulating and enjoyable leaving Niagara Falls with new knowledge and fond memories.

Biljana Spirovski
CAPhO Conference 2016 Chair

Mot de bienvenue de la présidente du Congrès

Je suis heureuse de vous accueillir au Congrès de l'ACPhO 2016 dans la belle ville de Niagara Falls. Chaque année, cet évènement éducatif – le plus important en son genre – réunit des pharmaciens oncologues ainsi que des techniciens en pharmacie de partout au pays qui, pendant trois jours, apprennent, échangent et participent à différentes activités avec des collègues et amis.

Le comité de planification du Congrès de l'ACPhO a travaillé fort pour mettre au point un programme qui répond aux besoins des pharmaciens tant novices que chevronnés.

Le thème du congrès, « Et si on se parlait? », renvoie à l'importance d'une communication efficace, pas seulement avec nos patients et leurs aidants, mais aussi avec les autres professionnels de la santé, pour améliorer la prestation de soins personnalisés contre le cancer en ce 21e siècle. Dès la séance d'ouverture, des sujets pertinents, stimulants et soigneusement choisis seront abordés dans le but d'enrichir nos connaissances et de mieux nous outiller afin de donner une plus grande autonomie aux patients.

Il n'existe pas d'endroit plus majestueux que Niagara Falls pour vivre cette expérience d'apprentissage unique. Notre congrès a lieu tout près des célèbres chutes, que vous pourrez d'ailleurs contempler tout au long de ces trois journées. Parmi les activités sociales organisées, mentionnons des dégustations de spécialités culinaires et de vins locaux. Nous vous invitons également à prolonger votre séjour pour visiter les nombreux sites touristiques de la magnifique région de Niagara.

Au nom du comité de planification, j'aimerais remercier tous les présentateurs pour le temps et l'effort qu'ils ont consacrés au congrès, ainsi que nos partenaires du secteur pour leur contribution et leur soutien continu.

C'est pour moi un honneur et un privilège de servir à titre de présidente du Congrès de l'ACPhO 2016, lequel n'aurait su voir le jour sans l'aide des membres du comité de planification et de la direction de l'ACPhO.

J'espère que ce congrès sera pour vous une expérience enrichissante et agréable, et que vous repartirez de Niagara Falls avec un nouveau bagage de connaissances et des souvenirs inoubliables.

Biljana Spirovski
Présidente du Congrès de l'ACPhO 2016

You Are Invited

To a Symposium on Sustainability

Biologics: How can we achieve sustainability of drug spending in Canada?

Description:
Biologic medications dramatically improve patients' quality of life. For both private and public payers, spend on biologics is growing significantly as a percentage of the total drug spend in Canada. This program explores ways to continue delivering the important medications Canadian patients need while achieving sustainability of drug spend over the long term.

Topics include:

- Global experience with biosimilar medications
- Patient support
- Funding of new therapies
- View of biosimilars in Canada

Friday April 15, 2016
7:00 – 8:30 AM

Sheraton On The Falls Hotel, Niagara Falls, ON
Strategy Room 3, 5th Floor

Sponsored by Apobiologix™/MC, a division of Apotex Inc.

Apobiologix™/MC

Program at a Glance

This program is interactive, click on session titles to jump to the detailed program and find out more about your selected session.

Thursday, April 14

18:30-20:00

Satellite Symposium – BD Canada *(Strategy Room 3, 5th Level)*

Gravimetric IV Workflow Technology: Improving Pharmacy Operations & Increasing Patient Safety

E. Thomas Carey, *Swedish American Hospital, Rockford, IL, USA*

Friday, April 15

07:00-08:30

Satellite Symposium – Apobiologix *(Strategy Room 3, 5th Level)*

Biologics – How Can We Achieve Sustainability of Drug Spending in Canada?

Flay Charbonneau, *Odette Cancer Centre, Toronto, ON*
Marilee Mark, *Sun Life Financial, Toronto, ON*
Jason Dowd, *Apobiologix, Toronto, ON*

08:45-10:15

Satellite Symposium – Hoffmann-La Roche *(Great Room C, 3rd Level)*

Update on the Management of Recurrent Ovarian Cancer

Melissa Lo, *University Health Network, Toronto, ON*

10:30-12:00

Satellite Symposium – LEO Pharma Inc. *(Strategy Room 3, 5th Level)*

Challenges in the Treatment of Cancer-Associated Thrombosis: Latest Evidence and Practical Approaches to Management

Jay Easaw, *Tom Baker Cancer Center, Calgary, AB*

12:15-13:45

Satellite Symposium – Bristol-Myers Squibb *(Great Room C, 3rd Level)*

A Case in Checkpoint: Let's Talk About Their Expanding Place in Pharmacy Practice

Speakers: Scott D. Ernst, *London Regional Cancer Program, London, ON*
Lori Sax, *London Health Sciences Centre, London, ON*
Thomas McFarlane, *University of Waterloo, Kitchener, ON*
Colleen W. Olson, *Saskatoon Cancer Centre, Saskatoon, SK*
Moderator: Mike Lipkin, *Environics/Lipkin, Toronto, ON*

14:00-15:30

Satellite Symposium – Celgene *(Strategy Room 3, 5th Level)*

Optimizing Patient Outcomes in Pancreatic Cancer Therapy

Presenters: Scott Berry, *University of Toronto, Toronto, ON*
Gabriel Gazzé, *McGill University Health Centre, Montreal, QC*
Scott Edwards, *Eastern Health, St. John's, NL*
Moderator: Flay Charbonneau, *Odette Cancer Centre, Toronto, ON*

15:45-17:15

Satellite Symposium – Novartis *(Great Room C, 3rd Level)*

Keeping Abreast in Breast Cancer: Practical Implications of New Data for Pharmacists

George Dranitsaris, *Biostatistician and Oncology Research Scientist, Toronto, ON*
Scott Edwards, *Dr. H. Bliss Murphy Cancer Centre, St. John's, NL*

17:15-19:00

Welcome Reception – Exhibits and Posters Viewing *(Great Room A-B, 3rd Level)*

Saturday, April 16

07:00-08:30

Satellite Symposium – Amgen *(Strategy Room 3, 5th Level)*

Managing Relapsed Multiple Myeloma (RMM) Patients: Integrating New Treatment Options Into Clinical Practice

Christine I. Chen, *Princess Margaret Cancer Centre, Toronto, ON*
Pamela Ng, *Princess Margaret Cancer Centre, Toronto, ON*

08:00-08:45

Breakfast amongst the Exhibits and Posters *(Great Room A-B, 3rd Level)*

08:45-09:00

Welcome Remarks *(Great Room C, 3rd Level)*

Joan Fabbro, *CAPhO President, BC Cancer Agency, Kelowna, BC*
Biljana Spirovski, *Conference Chair, Humber River Hospital, Toronto, ON*

09:00-09:45

Plenary *(Great Room C, 3rd Level)*

Why Won't They Listen?! An Introduction to Motivational Communication and How it Can Improve Adherence and Outcomes in Patients Undergoing Cancer Treatment

Kim Lavoie, *University of Quebec at Montreal, Montreal, QC*

09:45-10:30

Panel *(Great Room C, 3rd Level)*

Ready, Set, Go! What Now? – Front Line Experiences in Planning, Starting and Sustaining an Oral Chemotherapy Assessment Practice

Panellists: Daniela Gallo-Hershberg, *North York General Hospital, Toronto, ON*
Gerry Mills, *Annapolis Valley District Health Authority, Kentville, NS*
Alia Thawer, *Sunnybrook Health Sciences Centre, Toronto, ON*
Moderator: Rick Abbott, *Dr. H. Bliss Murphy Cancer Centre, St. John's, NL*

10:30-11:10

Refreshment Break amongst the Exhibits and Posters *(Great Room A-B, 3rd Level)*

11:10-11:55

Panel *(Great Room C, 3rd Level)*

Pushing the Limits! Sharing Ideas in Innovative Clinical Oncology Pharmacy

Panellists: Diane Johnson, *CancerCare Manitoba, Winnipeg, MB*
Tom McFarlane, *University of Waterloo School of Pharmacy, Kitchener, ON*
Chris Ralph, *Tom Baker Cancer Centre, Calgary, AB*
Moderator: Tara Leslie, *Alberta Health Services, Calgary, AB*

12:00-13:00

CAPhO Annual General Meeting *(Great Room C, 3rd Level)*

13:00-14:00

Lunch amongst the Exhibits and Posters *(Great Room A-B, 3rd Level)*

14:00-14:40

Concurrent Sessions 1

Administrative Stream *(Strategy Room 3, 5th Level)*

Oncology Pharmacy Residency – Training and Preparing for the Real World, Undergraduate Education in Oncology

Panellists: Lynne Nakashima, *BC Cancer Agency, Vancouver, BC*
Melanie Danilak, *Cross Cancer Institute, Edmonton, AB*
Tom McFarlane, *University of Waterloo School of Pharmacy, Kitchener, ON*
Moderator: Mark Pasetka, *Sunnybrook Health Sciences Centre, Toronto, ON*

Clinical Stream *(Great Room C, 3rd Level)*

Sarcoma

Coleen Schroeder, *McGill University Health Center, Montreal, QC*

SATURDAY

Research Stream *(Strategy Room 7, 5th Level)*

Burning Questions: Using Surveys, Interviews and Focus Groups to Boost Your Care

Kelly Grindrod, *University of Waterloo, Waterloo, ON*

Technician Stream *(Strategy Room 2, 5th Level)*

Part 1: Pharmacy Technicians: The Road to Regulation

Yvonne Dresen, *University Hospital of Northern British Columbia – Northern Health, Prince George, BC*

Part 2: Adult Learning

Colleen Thurber, *Saskatoon Cancer Centre, Saskatoon, SK*

14:45-15:25

Concurrent Sessions 2

Administrative Stream *(Strategy Room 3, 5th Level)*

The Down and Dirty of Sterile Compounding and USP 797/800

Gwen Liu, *Hamilton Health Sciences, Hamilton, ON*
Carolyn Sloot, *Hamilton Health Sciences, Hamilton, ON*

Clinical Stream *(Great Room C, 3rd Level)*

Challenges in the Management of Elderly Patients with Cancer

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

Research Stream *(Strategy Room 7, 5th Level)*

The First Step is the Biggest: Moving from an Idea to Action in Research Using Qualitative and Quantitative Methods

Zubin Austin, *University of Toronto, Toronto, ON*

Technician Stream *(Strategy Room 2, 5th Level)*

Sterile Compounding: Wiping the Slate Clean

Jody Read, *Alberta Health Services, Red Deer Country, AB*

15:25-16:05

Refreshment Break amongst the Exhibits and Posters *(Great Room A-B, 3rd Level)*

16:05-16:50

Hot Topic Cluster Discussions *(Great Room C, 3rd Level, Strategy Rooms 2/3/7, 5th Level)*

18:30-22:30

Dinner Event - Dine and Dance on the Falls *(Elements on the Falls Restaurant, 6650 Niagara Parkway)*

Sunday, April 17

07:00-08:30

Satellite Symposium – Merck *(Great Room A, 3rd Level)*

Immune Checkpoint Inhibition: PD-1 Inhibitors Translating Knowledge into Better Patient Care

Guest: Scott Edwards, *Dr. H. Bliss Murphy Cancer Center, St. John's, NL*
Host: Sean Hopkins, *Royal Victoria Health Centre, Barrie, ON*

08:30-09:15

CAPhO Town Hall Breakfast Meeting *(Great Room C, 3rd Level)*

09:15-09:45

Oral Sessions: Award Winning Posters *(Great Room C, 3rd Level)*

09:45-10:30

Plenary *(Great Room C, 3rd Level)*

Checkpoint Inhibitors: The New Oncology Blockbusters

Tom McFarlane, *University of Waterloo School of Pharmacy, Kitchener, ON*

10:30–10:45

Refreshment Break *(Foyer of Great Room C, 3rd Level)*

10:45-11:30

Plenary *(Great Room C, 3rd Level)*

Update on Chronic Lymphocytic Leukemia (CLL)

Mark Brown, *Hamilton Health Sciences, Henderson Hospital, Hamilton, ON*

11:30-12:15

Panel *(Great Room C, 3rd Level)*

Practical Ways to Implement a Pharmacist-Led Toxicity Management Program

Panellists: Linda Elnazir, *Walker Family Cancer Centre of the Niagara Health System, St. Catharines, ON*
Gerry Mills, *Annapolis Valley District Health Authority, Kentville, NS*
Lori Sax, *London Health Sciences Centre, London, ON*
Moderator: Daniela Gallo-Hershberg, *North York General Hospital, Toronto, ON*

12:15-12:25

Closing Remarks *(Great Room C, 3rd Level)*

Mark Pasetka, *Sunnybrook Health Sciences Centre, Toronto, ON*
Biljana Spirovski, *Conference Chair, Humber River Hospital, Toronto, ON*

12:30-14:00

Satellite Symposium – Astellas *(Strategy Room 3, 5th Level)*

Improving Patient Health: Optimizing HCP to HCP Communication

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

I MAY BE A DIFFERENT WAY TO FIGHT MY CANCER

What if we could enlist the immune system to fight cancer? Bristol-Myers Squibb is investigating just that.

Bristol-Myers Squibb is committed to advancing the science of Immuno-Oncology (I-O) and is actively researching this field in patients with different types of cancer. Behind I-O is the growing understanding of how cancer evades the immune system. This science is rapidly evolving, and we are exploring its pathways in various cancers. Bristol-Myers Squibb is dedicated to advancing this innovative field of research.

For more information about Immuno-Oncology (I-O) visit ImmunoOncology.ca

Bristol-Myers Squibb

Immuno-Oncology

STRIVING TO LEAD THE WAY

INNOVATIVE MEDICINES CANADA PAAB

Update on the Management of Recurrent Ovarian Cancer

Presenter:	**Melissa Lo, PharmD** *Ambulatory Oncology Pharmacist, University Health Network*	
Date:	Friday, April 15, 2016	
Time:	8:45 am – 9:45 am 9:45 am – 10:15 am	Speaker Presentation Questions and Discussion
Location:	Sheraton on the Falls Hotel Niagara Falls, Ontario *Great Room C, 3rd Level*	

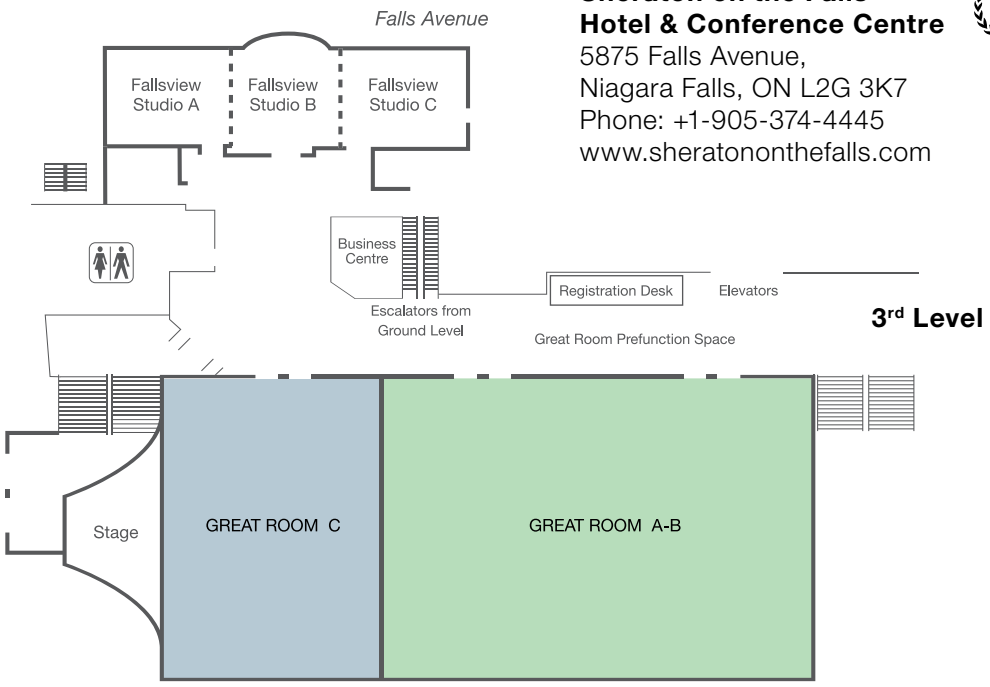
Objectives:

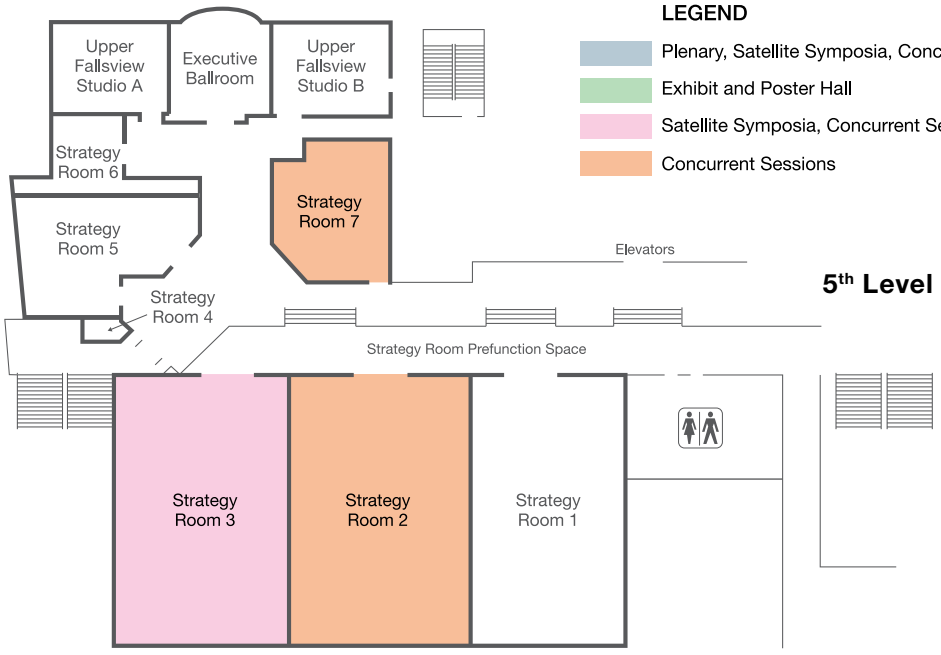
1. Review the pathophysiology of ovarian cancer.
2. Discuss current guidelines in the management of RECURRENT ovarian cancer.
3. Evaluate current literature regarding treatments in recurrent ovarian cancer.
4. Discuss novel pathways in the management of recurrent ovarian cancer therapeutics.

This activity was made possible through support provided by Hoffmann-La Roche Limited.

Venue Floor Plan

Sheraton on the Falls
Hotel & Conference Centre
5875 Falls Avenue,
Niagara Falls, ON L2G 3K7
Phone: +1-905-374-4445
www.sheratononthefalls.com





Exhibits and Posters

Opening Hours

The following events will take place in the Exhibit and Poster Hall, located in Great Room A-B, 3rd Level during the opening hours.

Friday, April 15, 17:15-19:00

17:15 – 19:00 Welcome Reception
Exhibits and Posters Viewing

Saturday, April 16, 08:00-16:15

08:00 – 08:45 Breakfast

10:30 – 11:10 Refreshment Break

13:00 – 14:00 Buffet Lunch

15:25 – 16:05 Refreshment Break

Poster Presenter Directions

Please set up your poster on Friday, April 15 between 14:00 and 17:00 in the Exhibit and Poster Hall, Great Room A-B on the 3rd Level of the hotel. You can remove your poster between 16:05 and 18:00 on Saturday, April 16.

Attendance is required at the *Welcome Reception – Exhibits and Posters Viewing* on Friday, April 15 from 17:15 to 19:00 as well as the *Oral Sessions: Award Winning Posters* session on Sunday, April 17 from 09:15 to 09:45.

Exhibitor Listing (alphabetical by company name)

Company	Booth #
ACCORD HEALTHCARE	14
AMGEN	20
APOBIOLOGIX	15
ASTELLAS	12
BAXTER	5 & 6
BD CANADA	19
BRISTOL-MYERS SQUIBB	23
CAPHO	Foyer
CELGENE	18
EISAI	1
ELI LILLY	2

Company	Booth #
HOFFMANN-LA ROCHE	22
HOSPIRA HEALTHCARE CORPORATION, A PFIZER COMPANY	9
INNOVATIVE ONCOSOLUTIONS	7 & 8
JANSSEN	13
LEO PHARMA	17
LUNDBECK CANADA.	11
MERCK	21
NOVARTIS	16
SANDOZ CANADA	4
TAKEDA CANADA	3

Company	Table
ARXIUM	T 4
ASTRAZENECA	T 1
BAYER HEALTHCARE	T 9
BOEHRINGER INGELHEIM	T 5
CADTH	T 10
GILEAD	T 3
HEALTH CANADA	T 11
ICU MEDICAL	T 6
IPSEN BIOPHARMACEUTICALS CANADA	T 7
PFIZER INJECTABLES	T 12
SEATTLE GENETICS	T 8
TEVA	T 2

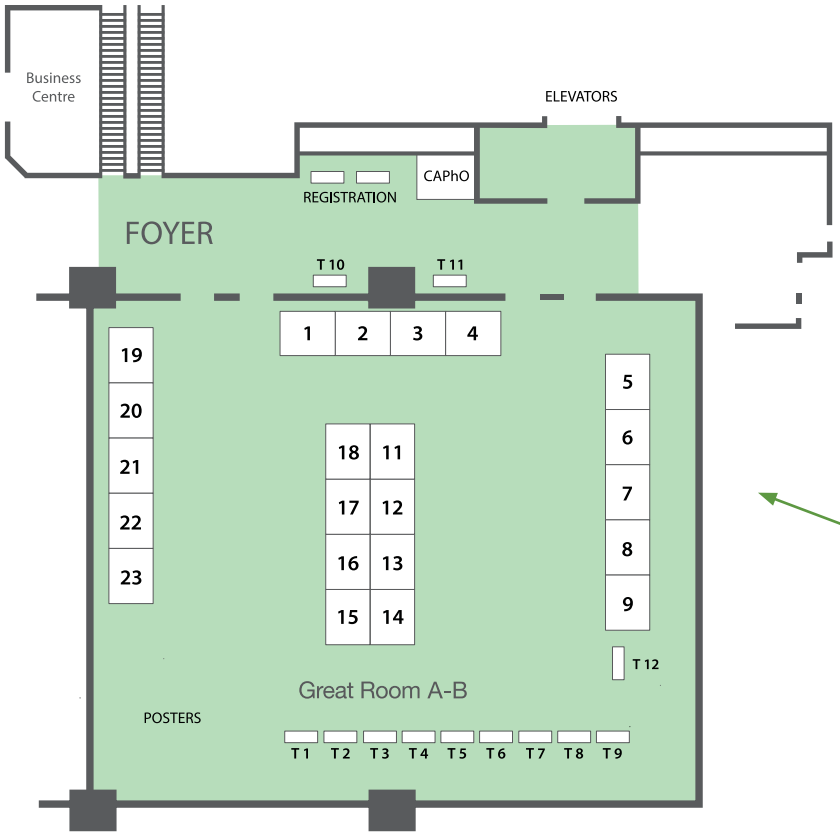
Exhibitor Listing (numerical by booth and table number)

Company	Booth #
CAPHO	Foyer
EISAI	1
ELI LILLY	2
TAKEDA CANADA	3
SANDOZ CANADA	4
BAXTER	5 & 6
INNOVATIVE ONCOSOLUTIONS	7 & 8
HOSPIRA HEALTHCARE CORPORATION, A PFIZER COMPANY	9
LUNDBECK CANADA	11
ASTELLAS	12

Company	Booth #
JANSSEN	13
ACCORD HEALTHCARE	14
APOBIOLOGIX	15
NOVARTIS	16
LEO PHARMA	17
CELGENE	18
BD CANADA	19
AMGEN	20
MERCK	21
HOFFMANN-LA ROCHE	22
BRISTOL-MYERS SQUIBB	23

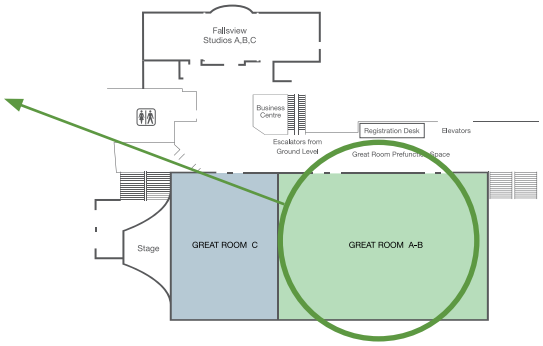
Company	Table
ASTRAZENECA	T 1
TEVA	T 2
GILEAD	T 3
ARXIUM	T 4
BOEHRINGER INGELHEIM	T 5
ICU MEDICAL	T 6
IPSEN BIOPHARMACEUTICALS CANADA	T 7
SEATTLE GENETICS	T 8
BAYER HEALTHCARE	T 9
CADTH	T 10
HEALTH CANADA	T 11
PFIZER INJECTABLES	T 12

Exhibit and Poster Hall Floor Plan



Sheraton on the Falls Hotel & Conference Centre

Great Room A-B



Poster Listing

This poster listing is interactive. Click on any poster title to jump to the poster abstract.

Research

1. Text Messages to Educate, Engage, and Motivate (TEEM Trial): Patient Perceptions of Text Messaging to Supplement Patient Counseling and Improve Medication Adherence
2. Evaluation of the Oncotype DX Test Review in Breast Cancer Patients at the BC Cancer Agency (BCCA)
3. Evaluation of the Incidence of Palmar-Plantar Erythrodysthesia Following the Administration of Docetaxel Adjuvant Therapy for Breast Cancer
4. Incidence of Hypomagnesemia in Colorectal, Head & Neck, and Gynecological Cancer Patients Receiving Endothelial Growth Factor Receptor (EGFR) Inhibitor Or Platinum Agents: A Retrospective Analysis
5. Development of Growth Colony Stimulating Factor (GCSF) Recommendations for Prevention of Febrile Neutropenia Using a Combination of Evidence and Expertise
6. Evaluation of the Sterility of Single-Use Vials Undergoing Multiple Access Following Application of a Closed System Transfer Device
7. Stability of 1.0 And 2.5 Mg/Ml Bortezomib Solution in Vials and Syrings following Reconstitution with 0.9% Sodium Chloride at 4°C and Room Temperature (23°C)

Pharmacy Practice

8. Breaking Down the Medication Counselling Session: Patient Experiences with an Alternative Approach to Medication Counselling for Oral Anti-Cancer Therapies
9. Descriptive Analysis of Bortezomib Use in the Treatment of Multiple Myeloma in Four Adult University Hospitals in Québec, Canada
10. Descriptive Analysis of Azacitidine Use in Four Adult University Teaching Hospitals in Québec, Canada
11. Oral Cancer Therapy Supported by Decentralized Pharmacy Services: A Look at Patients Receiving Pazopanib at the Saskatoon Cancer Centre
12. Marijuana Use Among Medical Oncology Patients at the Saskatoon Cancer Centre
13. Utilization of a Closed System Device (Phaseal™) for the Preparation and Administation of a Cytotoxic Drug for Subcutaneous Use
14. Robotic IV Compounding: The Manitoba Experience
15. Assessment of Barriers to Good Medication Taking Behaviour in Metastatic Prostate Cancer Patients Receiving Oral Anti-Androgen Therapy
16. Promoting Medication Error Prevention Strategies through Education
17. What's the Cost Of USP<797>?
18. BPMH….Who Do You Appreciate!

Administration

19. Development of Best Practice Recommendations for Systemic Treatment Regimen Development and Maintenance
20. Pharmacoeconomic Initative To Reduce the Financial Burden on the Ontario Drug Benefits Program (ODB)
21. Integration of Outpatient Pharmacy Specialty Services Within an Ambulatory Myeloma Clinic Setting
22. Impact of Automation on Chemotherapy Preparation Time
23. Utilization of Riva Robot in Hazardous and Non-Hazardous Drugs Preparation – The Humber River Hospital Data
24. What Do We Know About Patient Wait Times? Experience at a Regional Cancer Centre
25. Pharmacost: A Novel Visualization and Computation App for Budget Impact Analysis of Drug Treatment Programs
26. Influencing Antiemetic Prescribing Practices and Funding Changes through Evidence-Based Guidelines

MEDICAL BREAKTHROUGHS MAY COME OUT OF THE LAB.

BUT THEY BEGIN IN THE HEART.

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Canadian Association of Pharmacy in Oncology (CAPhO)

CAPhO Annual General Meeting

The CAPhO Annual General Meeting (AGM) will be held on Saturday, April 16 from 12:00-13:00 in Great Room C on the 3rd Level. All Conference participants are welcome to attend.

CAPhO members are encouraged to attend the AGM and have a chance to win a free registration to the CAPhO Conference 2017. Tickets will be distributed at the entrance to the AGM. You have to be present to win!

About CAPhO

CAPhO is the national forum for oncology pharmacists and other health care professionals interested in oncology pharmacy. Through the annual CAPhO Conference and other initiatives, CAPhO, a voluntary organization, promotes the practice of oncology pharmacy in Canada by conducting educational events, maintaining professional practice standards, facilitating communication between oncology pharmacists and other interested health professionals, and advocating for oncology pharmacy as an area of specialty practice.

CAPhO represents the professional interests and issues of oncology pharmacy at a national level.

Become a Member

Join CAPhO to connect with oncology pharmacists, technicians, pharmacy assistants and other health care professionals interested in the practice of oncology pharmacy in Canada.

Besides being a member of an association that represents your professional interests, we offer you an array of benefits, as well as opportunities to be involved in, and discussions to be a part of, in the field of oncology pharmacy.

Educational events & resources

- An engaging and informative annual CAPhO Conference at the CAPhO member conference rate ($250 off the registration fee)
- Online sharing of the posters and CCCEP-accredited presentations presented at CAPhO Conferences
- Participation in Oncology Basics, CAPhO's Oncology Practice Essentials online education module (created by members)
- Access to CAPhO's Educational webinar series on timely topics that matter in the field of oncology pharmacy (delivered by members)
- Continuous updating of the Online Practice Resources (using member recommendations)

Networking with Oncology Pharmacists in Canada and around the world

- Opportunities to communicate and network with other oncology pharmacy professionals across the country via the Members' Only Forum, at CAPhO Conferences, through social media, and Compass posts
- Updates on new publications written by CAPhO members
- Links to national and international oncology pharmacy organizations such as the Canadian Association of Provincial Cancer Agencies (CAPCA) and the International Society of Oncology Pharmacy Practitioners (ISOPP - where you can join as a CAPhO/ISOPP member)
- Tools to help you promote CAPhO and our upcoming conferences and events as an ambassador

Recognition and participation

- Access to awards and travel grants to recognize your achievement in the field of oncology pharmacy and to help you participate in our field's national and international conferences and events
- Access to the FCAPhO designation to recognize your contribution to the oncology pharmacy field and to CAPhO

Strategic opportunities

- A dedicated Executive Board ensures CAPhO's growth and development
- Influence the development and contribute to the implementation of CAPhO's strategic plan, CAPhO 2020
- Opportunities to support the Executive Members who represent your professional interests and bring your ideas forward to decision makers such as government officials
- Volunteer leadership opportunities to gain valuable experience, contribute to the field of oncology pharmacy and broaden your network of colleagues and friends
- Voting privileges at CAPhO's AGM to determine the direction and activities of the association

CAPhO Awards

CAPhO Conference Poster Award

Three CAPhO Poster Awards are presented annually at the CAPhO Conference. Each of these awards consists of a certificate and cash award of $500. There is one poster award for each of the following categories:

- Best Overall Poster for Research
- Best Overall Poster for Pharmacy Practice
- Best Overall Poster for Administration

CAPhO Merit Award

This award consists of a certificate and a cash award of $1,000 given to a practicing oncology pharmacist(s), pharmacy technician(s)/assistant(s) who are members of CAPhO. It is given in recognition of a project/innovation in oncology pharmacy aimed at improving patient care and outcomes. There are two awards of $1,000 available each year.

CAPhO Past President Award

This award is presented to the outgoing President of the CAPhO Executive Committee at the end of his/her two-year term. The award consists of a certificate.

Distinguished Service Award

This award was established to recognize long serving members who have made ongoing contributions to the success of CAPhO. The award is available annually and consists of a certificate and cash award of $1,500.

Fellow of CAPhO (FCAPhO)

The FCAPhO recognizes excellence in the practice of oncology pharmacy in Canada by distinguishing oncology pharmacists and other health care professionals interested in oncology pharmacy who are CAPhO members and have made outstanding contributions to this field and to CAPhO.

Student Member Award

This award was established to recognize student members and their contributions to the area of oncology pharmacy, and is open to both pharmacy students and pharmacy assistant/technician students. It is available annually and consists of a CAPhO Conference Travel Grant and a cash award of $500.

Volunteer Recognition Award

CAPhO members volunteer many hours to the Association as part of our efforts to improve oncology pharmacy practice. Each year, one member will be recognized for his/her contribution with a CAPhO Volunteer Recognition Award. Open to both oncology pharmacists and pharmacy technicians/assistants, this award consists of registration to the CAPhO Conference, accommodation at the conference hotel and travel expenses of up to $2,000.

CAPhO Conference Travel Grant Winners

CAPhO members were invited to apply for travel grants to attend CAPhO 2016. The following CAPhO members received a travel grant:

Pharmacist Travel Grant Recipients:
Mandeep Bains, Anne-Marie Charbonneau-Allard, Nancy Russell

Technicians or Pharmacy Assistant Travel Grant Recipients:
April Legrow, Corrinne Cassavant, Julie Melmoth

Student Travel Grant Recipient:
Vincent Ha

Association Management Office

Canadian Association of Pharmacy in Oncology (CAPhO)
c/o Sea to Sky Meeting Management Inc.
Suite 206, 201 Bewicke Avenue
North Vancouver, BC, Canada V7M 3M7
Email: info@capho.org
Phone: +1-778-338-4142
Fax: +1-604-984-6434
www.capho.org

Committees

Thank you to the CAPhO 2016 Planning Committee members and the CAPhO Executive for their work in planning this Conference. We would also like to thank those who have volunteered their time to assist the CAPhO 2016 participants and organizers onsite. We really appreciated the assistance you provide to ensure participants have everything they need to participate effectively in the Conference.

CAPhO Conference Planning Committee

Biljana Spirovski, *Conference Chair/CAPhO Research Chair, Humber River Hospital, Toronto, ON*
Rick Abbott, *CAPhO 2015 Co-Chair, Dr. H. Bliss Murphy Cancer Centre, St. John's, NL*
Flay Charbonneau, *Sponsorship Representative, Sunnybrook Health Sciences Centre, Toronto, ON*
Carlo De Angelis, *Local Representative, Sunnybrook Health Sciences Centre, Toronto, ON*
Kimberly Defoe, *CAPhO 2017 Chair, Alberta Health Services, Calgary, AB*
Scott Edwards, *CAPhO 2015 Co-Chair, Dr. H. Bliss Murphy Cancer Centre, St. John's, NL*
Lori Emond, *CAPhO Technician Representative, CancerCare Manitoba, Winnipeg, MB*
Tom McFarlane, *Pharmacist Representative, University of Waterloo, Kitchener, ON*
Thanh Vu, *Sponsorship Representative, University of British Columbia, Vancouver, BC*
Kelly-Ann Wakeford, *Technician Representative, Juravinski Cancer Centre, Hamilton, ON*

CAPhO Awards Committee

Coleen Schroeder, *Chair, McGill University Health Center, Montreal, QC*
Shirin Abadi, *BC Cancer Agency, Vancouver, BC*
Vincent Ha, *Cross Cancer Institute, Edmonton, AB*
Michael LeBlanc, *Horizon Health Network, Moncton, NB*

CAPhO Executive Committee

Joan Fabbro, *President, BC Cancer Agency, Kelowna, BC*
Jennifer Jupp, *Past President, Alberta Children's Hospital, Calgary, AB*
Mark Pasetka, *President-Elect, Sunnybrook Health Sciences Centre, Toronto, ON*
Esther Jadusingh, *Treasurer, CancerCare Manitoba, Winnipeg, MB*
Coleen Schroeder, *Awards Committee Chair, McGill University Health Center, Montreal, QC*
Christopher Ralph, *Communications Committee Chair, Tom Baker Cancer Centre, Calgary, AB*
Tara Leslie, *Education Committee Chair Pharmacist, Alberta Health Services, Calgary, AB*
Colleen Thurber, *Education Committee Chair Technician / Pharmacy Assistant, Saskatoon Cancer Centre, Saskatoon, SK*
Roxanne Dobish, *Membership Committee Chair, Alberta Health Services, Edmonton, AB*
Biljana Spirovski, *Research Committee Chair, Humber River Hospital, Toronto, ON*

Conference Information

Hotel Facilities and Services

Venue Address and Contact Information

Sheraton on the Falls Hotel
5875 Falls Avenue, Niagara Falls, ON L2G 3K7
Phone: +1-905-374-4445
www.sheratononthefalls.com

Business Centre

Sheraton on the Falls Business Centre is located on the 3rd floor within the Conference Centre. The self-serve centre is open Monday to Friday, 8am to 5pm, Saturday, 10am to 3pm and Sunday, 9am to 1pm for registered hotel guests. It offers the following services:

- Black and white printing (5 pages complimentary)
- Colour printing (available at a nominal charge)
- Four work stations equipped with a variety of software

Non-registered guests can access the Business Centre for a fee using a credit card.

First Aid / Emergency

For first aid assistance or in case of a medical emergency, ask any hotel staff, or Conference Registration staff for help. The nearest hospital is Greater Niagara General Hospital, located five minutes from the hotel by car at 5546 Portage Road. Their telephone number is +1-905-378-4647.

Information

Please ask the Concierge for information on the closest restaurants, lost and found, sightseeing tours and other guest services. There is an ATM located in the lobby next to the Starbucks.

Internet Access

Complimentary wireless internet is available in guest rooms and in the lobby for 30 minutes for registered guests.

Lost and Found

For assistance with lost and found items, please dial 6643 on a hotel phone.

Conference Administration and Services

Accreditation

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. CAPhO 2016 is accredited for 9.78 continuing education credits (CEUs).

Letters of Accreditation are available at the Registration Desk.

Below are the accreditation numbers:
Pharmacists / Pharmaciens: #1152-2016-1688-C-P
Pharmacy Technicians / Techniciens en pharmacie: #1152-2016-1701-C-T

Catering and Dietary Requirements

Breakfast, refreshment breaks and lunch on Saturday will be held in the Exhibit and Poster Hall in Great Room A-B on the 3rd Level of the hotel. Breakfast on Sunday will be held in Great Room C, and the refreshment break on Sunday in the Foyer of Great Room C, 3rd Level.

Dietary requirements noted during the registration process have been communicated to the hotel. If special meals are being provided for you, you will receive dietary tickets with your name badge. If you have dietary requirements and did not let us know during the registration process, please inform the staff at the Registration Desk.

Certificate of Attendance

If you requested a Certificate of Attendance during the registration process, it will be emailed to you after the Conference.

Conference Survey

You will receive a link to the Conference survey the week of April 18. Your feedback is important to us and we rely on this information to help us improve future CAPhO Conferences. Please take a few minutes to complete the survey.

Liability and Disclaimer

Participants take part in the CAPhO Conference 2016 at their own risk.

Messages

Hand written messages can be posted on the message board located by the Registration Desk.

Name Badges

In addition to being a means of identification for your fellow participants, name badges must be worn at all times and are required to enter sessions and functions. If you misplace your name badge, please visit the Registration Desk to request a new one.

Registration Location and Hours

The Registration Desk is located in the Foyer of Great Room A-B, 3rd Level and is open during the following hours:

Thursday, April 14:	17:00-19:00	Friday, April 15:	06:30-18:00
Saturday, April 16:	07:00-16:00	Sunday, April 17:	07:00-12:30

Session Protocol

The language of the Conference is English.

Every effort will be made to ensure that all sessions start and end on time. Speakers and participants are asked to work together to respect the Conference schedule.

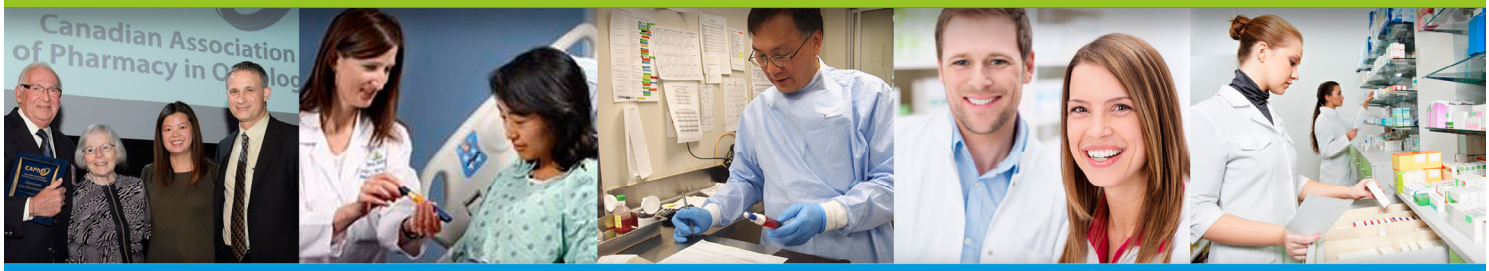
Respect your fellow participants by turning your cellular phones and other noise-making devices to mute during the sessions.

Social Event Tickets

The Welcome Reception takes place on Friday, April 15 from 17:15 to 19:00 amongst the Exhibits and Posters in the Exhibit and Poster Hall, Great Room A-B, 3rd Level. All Conference participants are welcome to attend. You do not need a ticket to attend.

The Dinner Event takes place on Saturday, April 16 from 18:30 to 22:30 in the Elements on the Falls Restaurant, a short walk from the hotel. If included in your registration category, your ticket is provided to you in your name badge. Guest tickets may be available at $79. If you would like to buy (an) additional ticket(s), visit the Registration Desk.

CAPhO Canadian Association of Pharmacy in Oncology



Membership for *Pharmacists*, *Technicians*, *Pharmacy Assistants*, and *Other Health Care Professionals* Interested in the Practice of Oncology Pharmacy in Canada

CONNECT

- Online Member Forum
- Professional Network
- Awards and Grants

LEARN

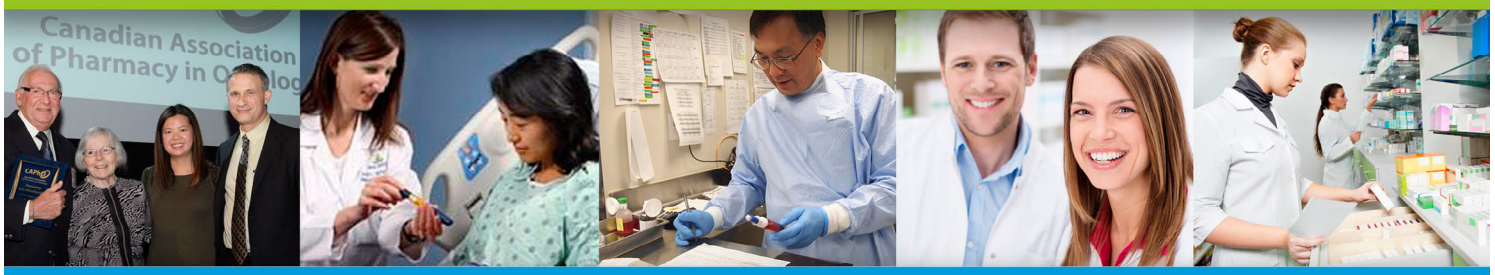
- **CAPhO's** Accredited Online Education
- Continuing Education Listing
- Resource Library

ENGAGE

- Annual CAPhO Conference
- Standards of Practice

www.capho.org

ACPhO Association canadienne de pharmacie en oncologie



Organisme représentant les *pharmaciens*, les *techniciens*, les *assistants en pharmacie* et les *professionnels de la santé* s'intéressant à la pratique de la pharmaco-oncologie au Canada.

RÉSEAUTAGE

- Forum des membres en ligne
- Réseau professionnel
- Prix et subventions

APPRENTISSAGE

- Cours de formation accrédités en lignes de l'ACPhO
- Éducation permanente
- Bibliothèque de ressources

ENGAGEMENT

- Conférence annuel de l'ACPhO
- Normes de pratique

www.acpho.org

Essentials
Oncology Practise Essentials

Oncology Basics

FREE for Members

Tutorials revised January 2016

Oncology Basics delivers the foundational concepts of cancer therapeutics and oncology pharmacy practice in a user friendly format

Available for purchase by non-members

ONCOLOGY BASICS TUTORIALS

1) Cancer Primer
2) Introduction to Cancer Pharmacotherapy
3) Cytotoxic Chemotherapy
4) Toxicity of Chemotherapy Agents
5) Hormonal Manipulation, Immunotherapy and Differentiating Agents
6) Targeted Therapies

Accredited for 5 CEUs from the Canadian Council on Continuing Education in Pharmacy

Online at capho.org

CAPhO Canadian Association of Pharmacy in Oncology

www.capho.org @capho_acpho

CAPhO 2020
STRATEGIC PRIORITIES

- Lead the development of a recognized oncology **specialization** for pharmacists and technicians
- Expand innovative **educational** opportunities in pursuit of excellence in practice
- Build an **advocacy** program to represent and advance the interests of members
- Deliver **value** through continual assessment, understanding and response to members' needs
- **Engage** members and advance the field of oncology pharmacy

CAPhO
Canadian Association of Pharmacy in Oncology

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Conference Program Details

Thursday, April 14

Satellite Symposium – BD Canada

Gravimetric IV Workflow Technology: Improving Pharmacy Operations & Increasing Patient Safety

E. Thomas Carey, *Swedish American Hospital, Rockford, IL*

18:30-20:00 *(Strategy Room 3, 5th Level)*

Since the publication of *To Err is Human*, health systems across the United States have devoted significant resources to improving safety. With increased focus on standards and guidelines, gravimetric IV workflow technologies can provide added safety in the preparation of high risk, and high cost medications that can also have the potential for significant harm. We will discuss the strategy and assessment to technology adoption, review operational improvements to workflow processes and discuss insights to the benefits on safety.

Friday, April 15

Satellite Symposium – Apobiologix

Biologics - How Can We Achieve Sustainability of Drug Spending in Canada?

Flay Charbonneau, *Odette Cancer Centre, Toronto, ON*
Marilee Mark, *Sun Life Financial, Toronto, ON*
Jason Dowd, *Apobiologix, Toronto, ON*

07:00-08:30 *(Strategy Room 3, 5th Level)*

Biologic medications dramatically improve patients' quality of life. For both private and public payers, spend on biologics is growing significantly as a percentage of the total drug spend in Canada. This program explores ways to continue delivering the important medications Canadian patients need while achieving sustainability of drug spend longer term. Topics include global experience with biosimilar medications, patient support, funding of new therapies and a view of biosimilars in Canada.

Satellite Symposium – Hoffmann-La Roche

Update on the Management of Recurrent Ovarian Cancer

Melissa Lo, *University Health Network, Toronto, ON*

08:45-10:15 *(Gream Room C, 3rd Level)*

Learning Objectives:

- Review the pathophysiology of ovarian cancer;
- Discuss current guidelines in the management of RECURRENT ovarian cancer;
- Evaluate current literature regarding treatments in recurrent ovarian cancer; and
- Discuss novel pathways in the management of recurrent ovarian cancer therapeutics.

Satellite Symposium – LEO Pharma Inc.

Challenges in the Treatment of Cancer-Associated Thrombosis: Latest Evidence and Practical Approaches to Management

Jay Easaw, *Tom Baker Cancer Center, Calgary, AB*

10:30-12:00 *(Strategy Room 3, 5th Level)*

Venous thromboembolism (VTE) is a major cause of morbidity and mortality in patients with cancer. There are many challenges related to the treatment of VTE in cancer that need to be considered when choosing appropriate treatment. New Canadian clinical practice guidelines on the management of cancer-associated thromboembolism (CAT) have been published. This session will review the latest clinical evidence, along with the new guidelines to explore practical considerations for management, including drug-interactions, risk assessment, and duration of therapy.

Learning Objectives:

- Examine the latest clinical evidence in CAT;
- Review the new Canadian guidelines in CAT; and
- Explore practical considerations for management, including drug-interactions, risk assessment and duration of therapy.

Satellite Symposium – Bristol-Myers Squibb

A Case in Checkpoint: Let's Talk About Their Expanding Place in Pharmacy Practice

Speakers: Scott D. Ernst, *London Regional Cancer Program, London, ON*
Lori Sax, *London Health Sciences Centre, London, ON*
Thomas McFarlane, *University of Waterloo, Kitchener, ON*
Colleen W. Olson, *Saskatoon Cancer Centre, Saskatoon, SK*
Moderator: Mike Lipkin, *Environics/Lipkin, Toronto, ON*

12:15-13:45 *(Great Room C, 3rd Level)*

Checkpoint inhibition is a recent arrival in the oncology arsenal and one that will play an increasingly important role as it starts to be used to treat an ever-growing array of tumours.

Join a multidisciplinary group of experts to discuss the role of the pharmacist against this changing background, look at the case-based management of patients treated with checkpoint inhibition, and receive answers to your burning questions.

Learning Objectives:

After participating in this symposium, participants will be better able to:

- Discuss the expanding utility of checkpoint inhibition in oncology practice;
- Understand the role of pharmacists in the management of patients treated with immuno-oncology; and
- Counsel patients prescribed with checkpoint inhibitors.

Satellite Symposium – Celgene

Optimizing Patient Outcomes in Pancreatic Cancer Therapy

Scott Berry, *University of Toronto, Toronto, ON*
Gabriel Gazzé, *McGill University Health Centre, Montreal, QC*
Scott Edwards, *Eastern Health, St. John's, NL*
Moderator: Flay Charbonneau, *Odette Cancer Centre, Toronto, ON*

14:00-15:30 *(Strategy Room 3, 5th Level)*

The Symposium will be an overview of a program developed for Pharmacists by Pharmacists that they would be able to receive, modify, and deliver to their institutions based on their own internal educational needs. It would encompass information around pancreatic cancer, data around Abraxane plus Gemcitabine, interventions and strategies to manage AG, disease related symptom management, and supportive care needs of patients and families of patients with pancreatic cancer.

Learning Objectives:

- To evaluate the goals of treatment and current therapeutic options for the management of advanced pancreatic cancer in Canada;
- To identify and discuss practical strategies for the optimal management of advanced pancreatic cancer patients; and
- To review a newly created educational program for oncology pharmacists on advanced pancreatic cancer.

Satellite Symposium – Novartis

Keeping Abreast in Breast Cancer: Practical Implications of New Data for Pharmacists

George Dranitsaris, *Biostatistician and Oncology Research Scientist, Toronto, ON*
Scott Edwards, *Dr. H. Bliss Murphy Cancer Centre, St. John's, NL*

15:45-17:15 *(Great Room C, 3rd Level)*

With a wide variety of treatment options and ever-expanding evidence base, it can be difficult for busy pharmacists to stay up to date on breast cancer therapy. In this symposium, a group of experts will review the evolving pharmaco-therapeutic environment, discuss how to interpret clinical data, and demonstrate its implications for daily pharmacy practice.

Learning Objectives:

After taking part in this symposium, participants will be better able to:

- Understand the practical implications of the evolving breast cancer armamentarium;
- Interpret data from breast cancer clinical trials; and
- Apply clinical trial data to real-life pharmacy practice.

Welcome Reception – Exhibits and Posters Viewing

17:15-19:00 *(Great Room A-B, 3rd Level)*

The Welcome Reception will take place amongst the exhibits and posters. Come and meet the Conference sponsors, poster presenters and many of your peers in a casual atmosphere! Participation is included in your registration fee.

Saturday, April 16

Satellite Symposium – Amgen

Managing Relapsed Multiple Myeloma (RMM) Patients: Integrating New Treatment Options Into Clinical Practice

Christine I. Chen, *Princess Margaret Cancer Centre, Toronto, ON*
Pamel Ng, *Princess Margaret Cancer Centre, Toronto, ON*

07:00-08:30 *(Strategy Room 3, 5th Level)*

The treatment landscape for patients with relapsed multiple myeloma is constantly evolving. Among the new treatments, carfilzomib, a next generation proteasome inhibitor, has demonstrated an unprecedented improvement in median progression free survival in RMM patients, in combination with lenalidomide and dexamethasone. The focus of this talk will be to discuss some of the practical aspects of managing a patient being treated with carfilzomib, lenalidomide and dexamethasone including, but not limit to, adverse event management, dose modifications and concomitant medications. The talk will also include overall multiple myeloma patient management strategies.

Learning Objectives:

- Review the evolving treatment landscape for patients with relapsed multiple myeloma;
- Identify some of the practical aspects of managing a patient being treated with carfilzomib, lenalidomide and dexamethasone; and
- Discuss overall patient management strategies for relapsed multiple myeloma.

Breakfast amongst the Exhibits and Posters

08:00-08:45 *(Great Room A-B, 3rd Level)*

Welcome Remarks

Joan Fabbro, *CAPhO President, BC Cancer Agency, Kelowna, BC*
Biljana Spirovski, *Conference Chair, Humber River Hospital, Toronto, ON*

08:45-09:00 *(Great Room C, 3rd Level)*

Opening Plenary

Why Won't They Listen?! An Introduction to Motivational Communication and How it Can Improve Adherence and Outcomes in Patients Undergoing Cancer Treatment

Kim Lavoie, *University of Quebec at Montreal, Montreal, QC*

09:00-09:45 *(Great Room C, 3rd Level)*

Dr. Kim Lavoie *is internationally recognized for her research on chronic disease prevention and the impact of behavioral interventions, such as motivational communication, on health behaviors and chronic disease outcomes. She has held over $17 million in peer-reviewed research funding, including over $4 million in principle investigator funding (from CIHR, Heart and Stroke Foundation, and industry), which has led to 129 peer-reviewed manuscripts/ chapters published in a variety journals. Her H-Index (Google scholar = 27 and Web of Science = 19) places the impact of her work in the "outstanding" range. She has been invited to present 144 presentations/workshops with more than 100 focusing on motivational communication. In total, over 8000 health professionals worldwide have attended her workshops which have been sponsored by both non-profit/professional organizations (e.g., Canadian Dermatology Association, Heart and Stroke Foundation) and industry (e.g. Abbvie, Boehringer Ingelheim, Janssen).*

Motivational communication (MC), which derived from motivational interviewing (MI), is an empirically-validated client centered communication style that has become increasingly popular within health care settings. At the heart of MC is getting patients to overcome their ambivalence about health behavior change through the use of basic motivational communication techniques. The core communication skills/competencies include "asking", "listening" (and reflective listening) and "giving information". MC encourages empowering patients to take responsibility for their health and well-being, where healthcare professionals only serve as coaches or guides in the behavior change process. Specific applications include: engaging patients, and establishing rapport; and clarifying treatment expectations; enhancing the acceptance of diagnoses and willingness to try new therapies; facilitating health behaviour change (e.g., smoking cessation, weight loss); and optimizing treatment adherence.

Learning Objectives:

This presentation will introduce participants to the basic philosophy and 'spirit' of MC, and illustrate how it may be a beneficial and feasible alternative to current 'top-down' healthcare communication approaches. The core communication skills used in MC will be reviewed, and demonstrated using concrete examples in the context of cancer pharmacology.

After attending the presentation, participants will be able to:

- Describe the importance of communication skills for chronic disease (cancer) management and adherence;
- Recognize the core principles and skills of motivational communication (MC);
- Identify some basic MC skills that target patient engagement and adherence; and
- Summarize the evidence base for the efficacy of MC for chronic disease management.

SATURDAY

Panel

Ready, Set, Go! What Now? – Front Line Experiences in Planning, Starting and Sustaining an Oral Chemotherapy Assessment Practice

Panellists: Daniela Gallo-Hershberg, *North York General Hospital, Toronto, ON*
Gerry Mills, *Annapolis Valley District Health Authority, Kentville, NS*
Alia Thawer, *Sunnybrook Health Sciences Centre, Toronto, ON*
Moderator: Rick Abbott, *Dr. H. Bliss Murphy Cancer Center, St. John's, NL*

09:45-10:30 *(Great Room C, 3rd Level)*

Dr. Daniela Gallo-Hershberg *is the Oncology Pharmacist Practitioner at North York General Hospital.*

Daniela earned her Bachelor of Science in Pharmacy from the University of Toronto in 2003 and completed an Ambulatory Pharmacy Practice Residency at Sunnybrook Health Sciences Centre in 2004. She graduated with a Doctor of Pharmacy degree from the University of Toronto in 2006.

Daniela is an Assistant Professor (status) at the Faculty of Pharmacy at the University of Toronto where she coordinates and lectures for the Contemporary Topics in Oncology course in the PharmD for Pharmacists Program.

Gerry Mills *was attending Memorial University in St. John's, NL working towards his BSc in physics before deciding to study Pharmacy in 1982. After graduating Gerry worked as a community pharmacist in St. John's, before switching to hospital pharmacy in 1989.*

Gerry has been a clinical oncology pharmacist for the past 10 years at the Valley Regional Hospital in Kentville N.S. Gerry splits his time between the Pharmacy Department and the Chemotherapy/Oncology clinic performing pharmacy assessments, medication reviews, and patient and staff education and follows up toxicity assessment for intravenous and oral chemotherapy patients in the outpatient setting.

Gerry's main interest in oncology include direct patient counseling and providing current evidence informed information to ensure heath care team members are best able to manage and prevent chemotherapy related toxicities.

Gerry also has a personal interest in furthering his education in molecular diagnostics of cancer and the effect this has on treatment selection, particularly in regards to the use of targeted therapies.

Alia Thawer *is the Oral Anticancer Medications (OACMs) pharmacist at the Odette Cancer Centre, Sunnybrook Health Sciences Centre. She also represents the Odette Oncology Pharmacy on the Sunnybrook Smoking Cessation Steering Committee. This is an interprofessional team to help patients with smoking cessation, using the cancer diagnosis or treatment as a teachable moment. This is a centre wide initiative, with an end of goal of offering a smoking cessation intervention to all patients interested in quitting smoking in an effort to optimize treatment outcomes.*

Learning Objectives:

- Provide participants with front line experiences of oral chemotherapy assessment programs from three different cancer program perspectives;
- Review the challenges in planning and development of a pharmacists led oral chemotherapy assessment clinic;
- By sharing best practice help oncology pharmacists overcome the obstacles of starting an oral chemotherapy assessment clinic; and
- To obtain multicenter experiences on the challenges of sustaining and expanding an oral chemotherapy assessment clinic.

Refreshment Break amongst the Exhibits and Posters

10:30-11:10 *(Great Room A-B, 3rd Level)*

Panel

Pushing the Limits! Sharing Ideas in Innovative Clinical Oncology Pharmacy

Panellists: Diane Johnson, *CancerCare Manitoba, Winnipeg, MB*
Tom McFarlane, *University of Waterloo School of Pharmacy, Kitchener, ON*
Chris Ralph, *Tom Baker Cancer Centre, Calgary, AB*
Moderator: Tara Leslie, *Alberta Health Services, Calgary, AB*

11:10-11:55 *(Great Room C, 3rd Level)*

Diane Johnson *graduated from the Faculty of Pharmacy at the University of Manitoba in 2002. She initially worked at Shoppers Drug Mart in Winnipeg and at the Cross Lake Nursing Station in Cross Lake, Manitoba, providing pharmacy services to a remote northern community. She started working at CancerCare Manitoba in 2008 and has worked as a clinical pharmacist in the Brain Tumor Clinic, Breast Clinic and the Anticoagulation Clinic. She also works as an Investigational Drug Services pharmacist facilitating clinical trials.*

Dr. Tom McFarlane *received his Bachelor of Science in Pharmacy degree from the University of Toronto in 1996 and his Doctor of Pharmacy degree from Idaho State University in 2011. He is currently a Clinical Lecturer and researcher at the University of Waterloo School of Pharmacy in Kitchener, Ontario, where he created, coordinates, and teaches the oncology portion of the curriculum in the Doctor of Pharmacy program and is a member of the School of Pharmacy's Curriculum Assessment Committee.*

Chris Ralph *is a graduate of Memorial University of Newfoundland's School of Pharmacy. He is a clinical pharmacist with advanced prescribing authority (APA) in the Complex Cancer Pain and Symptom Management Service at the Tom Baker Cancer Centre in Calgary. He is a guest lecturer with MUN School of Pharmacy. Chris has a keen interest in the integration of technology into clinical practice, as well as the intersection of healthcare with social media. In his spare time, you're likely to find Chris: in the Rocky Mountains biking, hiking or skiing; at the rink working on his latest sportswriting project; playing guitar; or just keeping up with technology.*

Learning Objectives:

- Provide a description of three different innovative patient care pharmacy practices in Canada;
- Discuss barriers and challenges faced by clinical pharmacists to provide full scope patient care services; and
- Provide the audience members with insightful methods and strategies to integrate expanded patient care services into their own practice.

CAPhO Annual General Meeting

12:00-13:00 *(Great Room C, 3rd Level)*

All Conference participants are welcome to attend.

CAPhO members are encouraged to attend the AGM and have a chance to win a free registration to the CAPhO Conference 2017. Tickets will be distributed at the entrance to the AGM. You have to be present to win!

Lunch amongst the Exhibits and Posters

13:00-14:00 *(Great Room A-B, 3rd Level)*

Enjoy buffet lunch amongst the exhibits and posters and meet the Conference sponsors, poster presenters and many of your peers. Lunch is included in your registration fee.

Concurrent Sessions 1

Administrative Stream: Oncology Pharmacy Residency – Training and Preparing for the Real World, Undergraduate Education in Oncology

Panellists: Melanie Danilak, *Cross Cancer Institute, Edmonton, AB*
Tom McFarlane, *University of Waterloo School of Pharmacy, Kitchener, ON*
Lynne Nakashima, *BC Cancer Agency, Vancouver, BC*
Moderator: Mark Pasetka, *Sunnybrook Health Sciences Centre, Toronto, ON*

14:00-14:40 *(Strategy Room 3, 5th Level)*

Melanie Danilak *obtained her Bachelor of Science in Pharmacy in 2004 and Master of Education in Health Sciences Education in 2016 from the University of Alberta. She has completed an accredited pharmacy residency with a focus in oncology at the Cross Cancer Institute and has obtained additional prescribing authorization from the Alberta College of Pharmacists.*

Melanie currently works at the Cross Cancer Institute as the pharmacy clinical educator, residency program coordinator, and breast tumour group clinical pharmacist. She is also a clinical adjunct professor with the Faculty of Pharmacy & Pharmaceutical Sciences at the University of Alberta.

Dr. Tom McFarlane *received his Bachelor of Science in Pharmacy degree from the University of Toronto in 1996 and his Doctor of Pharmacy degree from Idaho State University in 2011. He is currently a Clinical Lecturer and researcher at the University of Waterloo School of Pharmacy in Kitchener, Ontario, where he created, coordinates, and teaches the oncology portion of the curriculum in the Doctor of Pharmacy program and is a member of the School of Pharmacy's Curriculum Assessment Committee.*

Lynne Nakashima *obtained her BSc(Pharm) at the University of British Columbia and her doctorate in Pharmacy at the University of North Carolina at Chapel Hill. She is currently the Provincial Pharmacy Director for the BC Cancer Agency and is responsible for all 6 BCCA Pharmacies and the Provincial Pharmacy services. She is also a Clinical Assistant Professor in the faculty of Pharmaceutical Sciences at UBC and the BC Cancer Agency Pharmacy Residency Program Director.*

Pharmacist experiences in creating baccalaureate, entry to practice PharmD, and post-baccalaureate PharmD oncology curricula as well as oncology focused residency programs will be presented. In addition, the panel will discuss successes, challenges, and future directions for education and training in the oncology pharmacy field.

Learning Objectives:

- Discuss current oncology pharmacy educational initiatives in Canadian pharmacy training programs;
- Understand the challenges to implementation and maintenance; and
- Appreciate the impact of the current training landscape and future directions.

Clinical Stream: Sarcoma

Coleen Schroeder, *McGill University Health Center, Montreal, QC*

14:00-14:40 *(Great Room C, 3rd Level)*

***Coleen Schroeder** is an oncology pharmacist that works at the Cedars Cancer Center within the McGill University Health Center in Montreal, Quebec. She obtained her BScPharm from the University of Manitoba in 2002. After completing the pharmacy residency program with the Winnipeg Regional Health Authority in 2003, Coleen moved to Montreal to work for the MUHC.*

The Cedars Cancer Center is an accredited referral hospital for sarcoma patients in Quebec and Coleen sat on the sarcoma tumour board for the institution in 2008-2009. Coleen completed her BCOP in 2008.

Sarcomas are a heterogeneous group of tumours that originate from a mesenchymal cell. Most common cancers such as breast and colon cancers usually arise from epithelial cells. There are two major categories of sarcoma – soft tissue and bone depending on the origin and can be further subdivided based on histopathological differences. The rarity and complexity of sarcoma tumours dictate that a specialized, multidisciplinary management approach is key to better outcomes. This includes radiation oncology, surgical oncology and medical oncology as well as a host of other health care professionals that are involved in the diagnosis, treatment and care of this patient population.

In the past, there has been limited success with chemotherapy in sarcoma tumours perhaps due to the different histological sub-types. Regimens including anthracyclines and ifosfamide are often considered agents of choice for many sarcomas. Their place in the individual treatment plans can be variable. In this presentation, we will review liposarcomas, Desmoid tumours and osteogenic sarcomas.

Learning Objectives:

- Be able to differentiate between the 3 different sarcomas presented;
- Understand the overall treatment of sarcoma patients; and
- Be able to identify appropriate chemotherapy regimens.

SARCOMA 101

Coleen Schroeder BSc, BScPharm, ACPR, BCOP
CAPhO Conference 2016
Niagara Falls, Ontario
April 16, 2016

Conflict of interest disclosure

- No conflicts of interest to disclose

Learning objectives

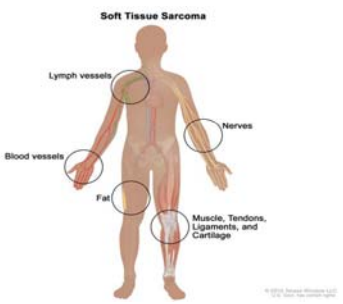
- To understand the overall treatment of sarcoma patients
- To differentiate between Desmoid tumours, liposarcomas and osteosarcomas
- To be able to identify appropriate chemotherapy regimens

Sarcoma

- Malignant tumors that arise from mesenchymal cells from skeletal and extra skeletal tissues including the peripheral nervous system.
- Heterogeneous group of rare tumors with different prognosis, clinical course, treatment strategies
- Very little hard evidence on how to treat sarcoma patients and the trials that are available are often conflicting

Treatment modalities

- Surgery
- Radiotherapy
- Chemotherapy
- Any combination

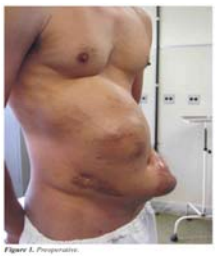


Desmoid Tumours

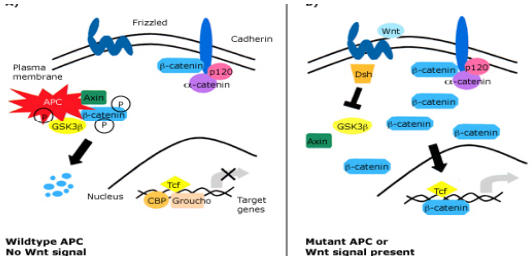
- Are locally aggressive tumours with no known potential for metastasis or dedifferentiation. They have a tendon like (desmos) consistency. As a group they have a highly variable clinical course.
- Epidemiology: more common in women between the ages 15-60
- Risk factors: Gardner's syndrome (FAP), pregnancy, prior trauma

Pathogenesis

- Wnt/beta-catenin pathway- active role in transcription within mesenchymal cells
- APC mutations
- Beta-catenin mutations
- Trisomy 8 and 20 mutations



The APC (adenomatous polyposis coli) gene modulates β-catenin, Tcf transcriptional activation, and Wnt signal transduction.



Diagnosis

- Most are deep, painless, slow growing, periods of growth and regression
- Presenting symptoms dependent on location of tumor
- Imaging: CT or MRI (some prefer for the specificity of cellularity and fibrous content of tumor)
- Histology: prefer incisional biopsy but skilled pathologist can use core needle biopsy
- Staging: controversial due to lack of metastasis

Disease Management

- Observation
- Surgery
- RT
- Systemic therapy
- Recurrence

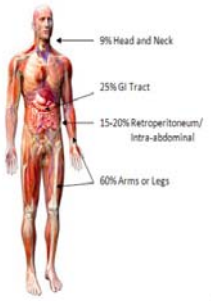
Systemic therapy

- Can have delayed response to treatment
  - **Non- cytotoxic**
- hormonal (tamoxifen 50% benefit rate, raloxifen, progesterone, goserelin)
- Anti inflammatory agents (sulindac)
- TKI (imatinib, sorafenib)

- **Cytotoxic therapy**
- Reserved for function or life threatening cases
- Has good response rates despite slow growing tumor
- Monotherapy: doxorubicin, liposomal doxorubicin
- Combination: anthracyclines, vinca alkaloids, methotrexate, alkylating agents

Soft Tissue Sarcoma (STS)

- Malignant precursor cells can differentiate along different tissues such as muscle, adipose, fibrous, cartilage, nerve or vascular tissue
- Limb, abdominal cavity/retro peritoneum, trunk/thoracic region, head and neck
- Over 50 histological subtypes that can differ in clinical profiles, response to therapies, and prognosis
- Potentially curative disease- requires a multidisciplinary team with expertise in sarcoma treatment for optimal outcomes



Liposarcoma

- One of the most common histological types of retroperitoneal STS
- Well-differentiated (low grade) most common, adipocytes that contain scattered lipoblasts, each with a single nucleus surrounded by large intracytoplasmic vacuoles.
- Have no potential to metastasize however they have a propensity to locally recur
- Dedifferentiated (high grade) have different biological behaviour. Have higher local recurrence rates and the potential to metastasize. It is thought that a well differentiated liposarcoma can recur as a dedifferentiated subtype and become more aggressive

Diagnosis

- Usually asymptomatic and found incidentally or with few symptoms unless they are large enough to disrupt the surrounding tissues.
- Can be painful but symptoms usually related to the mass effect (edema, neurologic or musculoskeletal symptoms in lower extremities, early satiety, obstruction, bleeding)
- Differential diagnosis between lymphomas and germ cell tumors
- Are B symptoms present? LDH, U/S of the testicles if young male, alpha-fetoprotein, b-hcg
- CT of abdomen/pelvis, as well as chest CT to rule out lung metastasis
- Core needle biopsy

Disease management

- Surgical resection is potentially curative if localized disease with negative margins (R0)
- Hard to achieve due to the anatomic restraints and therefore many resection are complete but with microscopically positive margins (R1)
- Sometimes requires resecting adjacent organs (kidney, colon, spleen and pancreas)
- For unresectable disease there is no benefit to debulking surgery unless palliative of symptoms in certain patients
- RT used as adjuvant or neoadjuvant to help maintain functionality and decrease cosmetic deformity

Systemic therapy

- Neo adjuvant - limited data, low response rate for liposarcomas
- Adjuvant -controversial, multiple trials with differing results, mainly doxorubicin/ifosfamide
- Recurrence - chemotherapy with regional hyperthermia (mainly done in Germany)
- Metastatic

Systemic therapy

- Objective response rates are not good measures for benefit in sarcoma – moving towards PFS, Progression –free rate, % survival, OS, and disease stabilization
- Most trials involve many different histologies and therefore the results are hard to interpret

Single agent therapy

- doxorubicin
- liposomal doxorubicin
- epirubicin
- ifosfamide
- dacarbazine
- gemcitabine
- trabectidin

Combination chemotherapy

- **AIM** (doxorubicin, ifosfamide, mesna)
- doxorubicin 25mg/m2 CIVI daily x 3
- ifosfamide 2.5g/m2 daily x 4
- mesna 0.5g/m2/day pre and
- mesna 1.5g/m2/day
- q3weeks

Combination chemotherapy

- **MAID** (mesna, doxorubicin, ifosfamide, dacarbazine)
- mesna 0.5g/m2/day pre ifos and
- mesna 1.5g/m2/day daily x 3 days
- doxorubicin 60mg/m2 day 1only,
- ifosfamide 2g/m2/day x 3 days
- dacarbazine 300mg/m2/day x 3
- q3weeks

Combination chemotherapy

- **Gemcitabine/docetaxel**
- gemcitabine 900mg/m2 over 10mg/m2/min day 1 and 8
- docetaxel 75-100mg/m2 day 8 ONLY
- Q3weeks
- **Gemcitabine/dacarbazine**
- gemcitabine 1800mg/m2 IV over 10mg/m2/min day 1
- dacarbazine 500mg/m2 IV day 1
- Q2weeks

Combination chemotherapy

- **AD (Doxorubicin/Dacarbazine)**
- doxorubicin 60mg/m2 day 1
- dacarbazine 1000mg/m2 day 1
- q3weeks

New treatments

- Imatinib
- Pazopanib
- Eribulin
- Sirolimus
- Sunitinib /sorafenib
- Cediranib
- Bevacizumab

Osteosarcoma

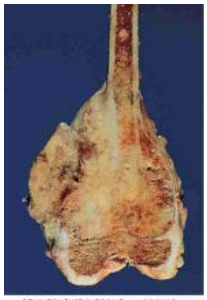
- Primary malignant tumours of bone, that arises from a mesenchymal stem cell that is capable of differentiating towards fibrous tissue, cartilage or bone
- Epidemiology: Bimodal age distribution with peak incidence is in adolescence (during growth spurts) and in older patients over 65 (related to Paget's disease or other bone lesions)
- Risk factors: in children usually sporadic, however risks with prior chemotherapy or irradiation, benign bone lesions and inherited conditions

Pathophysiology

- Appears to be related to rapid bone growth (puberty, remodelling)
- RB1 mutations (associated with retinoblastoma) 70% of cases
- TP53 (associated with Li- Fraumeni syndrome) about 50% of cases
- Rothmund-Thomson syndrome (poikiloderma congentiale)
- Bloom syndrome or Werner syndrome

Diagnosis

- Clinical presentation:localized pain lasting several months that can come and go, large palpable soft tissue mass, elevated alk phos, LDH, sed rate
- Distal femur, proximal tibia, proximal humerus, middle and proximal femur, other sites
- Imaging: X-ray, MRI (for surgical planning), radionucleotide bone scan with technetium vs PET/CT
- Histology: biopsy is key, who performs and location are important for future treatments especially for limb salvage
- Staging: surgical staging system Musculoskeletal Tumour Society (MSTS) vs TNM classification



Disease management

- Non metastatic disease = Surgery + chemotherapy however surgery is key
- RT resistant -has limited role except if incomplete resection or with the small cell subtype
- Metastatic disease = surgery + chemotherapy +\- RT
- Survival has increased in the last few decades due to the use of chemotherapy

Systemic therapy

- Non metastatic disease
- Neoadjuvant chemo evolved with limb sparing surgery
- Adjuvant chemo (HDMTX plus doxorubicin, bleomycin, cyclophosphamide, dactinomycin and vincristine or cisplatin)
- Response to chemotherapy does not define survival

High dose methotrexate

- Use is controversial
- Methotrexate 8-12grams/m2 over 6 hours
- Leucovorin rescue various dosing 8-15mg/m2 Q6H x 10-12 doses
- Different trials used different doses as well as different leucovorin rescue regimens

MAP Regimen

Weeks	Agents	Dose	Days
Induction MAP (weeks 1 through 10)			
1, 6	Doxorubicin	37.5 mg/m^2 per day by continuous IV infusion or IV push	1 and 2
	Cisplatin	60 mg/m^2 per day IV over four hours	
4, 5, 9, 10	High-dose methotrexate	12 grams/m^2 IV over four hours*	1
	Leucovorin rescue	15 mg (approximately 10 mg/m^2) every six hours IV or orally for 10 doses[§]	Starting 24 hours after beginning high-dose methotrexate
Surgery (week 11)			
11	Resection or amputation		
Postoperative MAP (weeks 12 through 29)			
12, 17	Doxorubicin[Δ]	37.5 mg/m^2 per day by continuous IV infusion or IV push	1 and 2
	Cisplatin	60 mg/m^2 per day IV over four hours	
22, 26	Doxorubicin[Δ]	37.5 mg/m^2 per day IV over 24 hours	
15, 16, 20, 21, 24, 25, 28, 29	High-dose methotrexate	12 grams/m^2 IV over four hours	1
	Leucovorin rescue	15 mg (approximately 10 mg/m^2) every six hours IV or orally for 10 doses	Starting 24 hours after beginning high-dose methotrexate

Uptodate accessed Feb 28, 2016

IE/ICE

- **IE**
- Ifosfamide 3.5g/m2 IV daily X 5
- Etoposide 100mg/m2 IV daily X 5
- Mesna
- **ICE**
- Ifosfamide 1.8g/m2 iv daily x 3
- Carboplatin 400mg/m2 IV daily x 3
- Etoposide 100mg/m2 iv daily x 3
- Mesna

NEW APPROACHES

- Gemcitabine/docetaxel
- Ridaforolimus (mTOR inhibitor)
- Insulin-like growth factor I receptor inhibitors (IGF IR inhibitors)
- Trastuzumab
- Bisphosphonates
- Immunotherapy (mifamuride, GM-CSF)

"It's one thing to run across Canada, but now, people are really going to know what cancer is."

–Terry Fox

Research Stream: Burning Questions: Using Surveys, Interviews and Focus Groups to Boost Your Care

Kelly Grindrod, *University of Waterloo, Waterloo, ON*

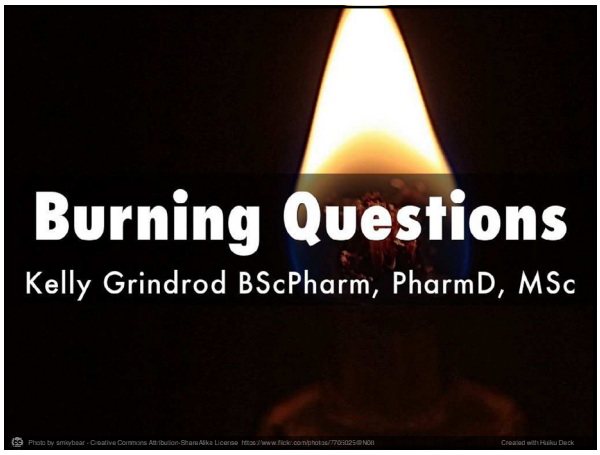
14:00-14:40 *(Strategy Room 7, 5th Level)*

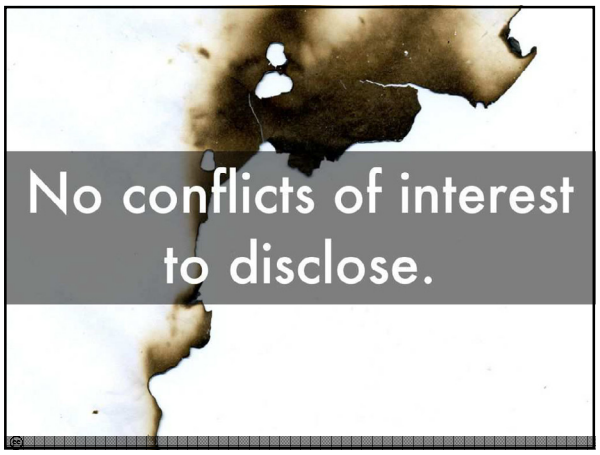
Kelly Grindrod *BScPharm, PharmD, MSc is an Assistant Professor at the University of Waterloo School of Pharmacy and a practicing pharmacist. Her research focuses on how digital technology can be used to improve how patients and healthcare providers manage medication therapy across the primary care setting.*

Pharmacists wear many hats in clinical practice. We optimize drug therapy, educate patients, work with care teams and build practice tools. But how do we know if what we are doing works? In this session, Dr. Grindrod will discuss the various evaluation tools that you can use to study your practice, including surveys, interviews and focus groups. She will also explore how these methods can be used together in what is often called “mixed methods” research. In this interactive and practical session, Dr. Grindrod will use examples from her own work on the use of digital tools to improve medication management, including the use of mobile apps and fitness trackers in patients living with chronic disease.

Learning Objectives:

- Describe the differences between quantitative and qualitative methods;
- Develop an research plan involving interviews or focus groups;
- Identify different analytic approaches for mixed methods research data; and
- Appreciate how mixed methods research can be used to provide better care.


Burning Questions
Kelly Grindrod BScPharm, PharmD, MSc


No conflicts of interest to disclose.


Objectives
• Describe the differences between quantitative & qualitative methods
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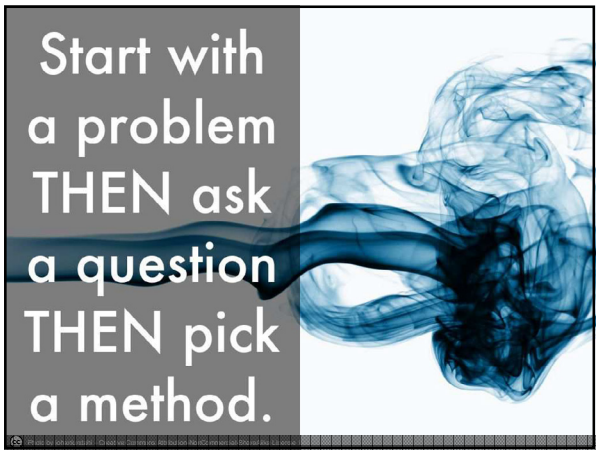
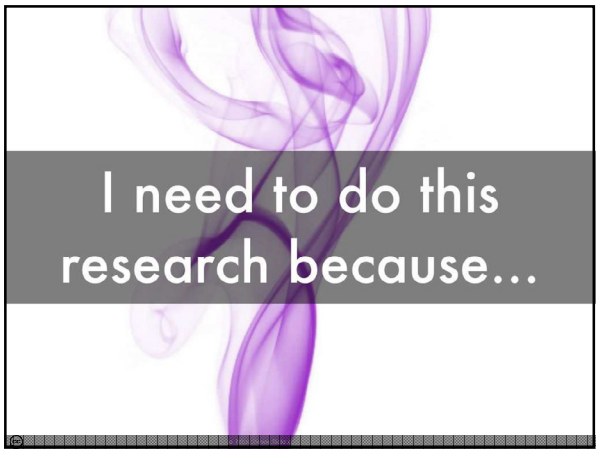
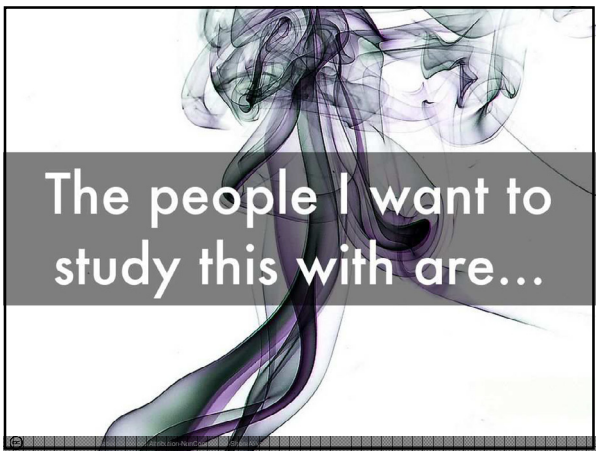
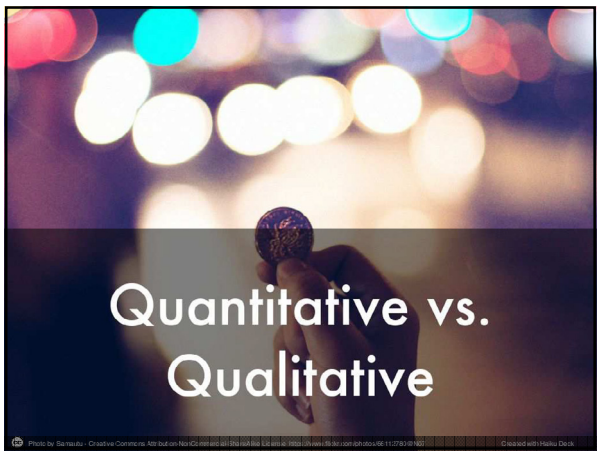

Start with a problem THEN ask a question THEN pick a method.

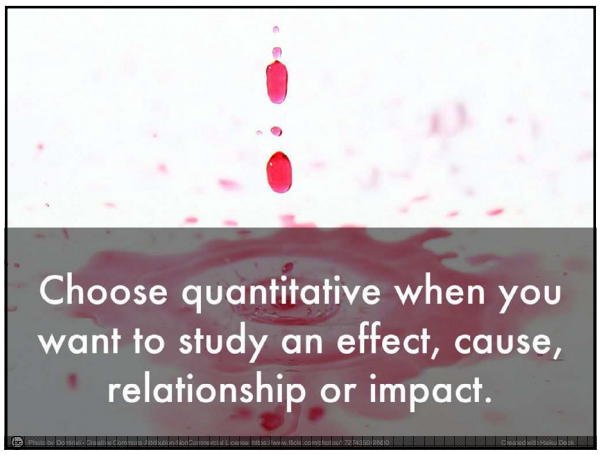

The main topic of my research includes...

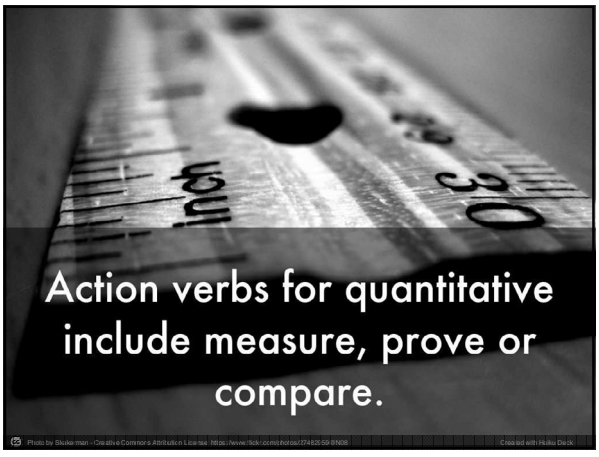

I need to do this research because...

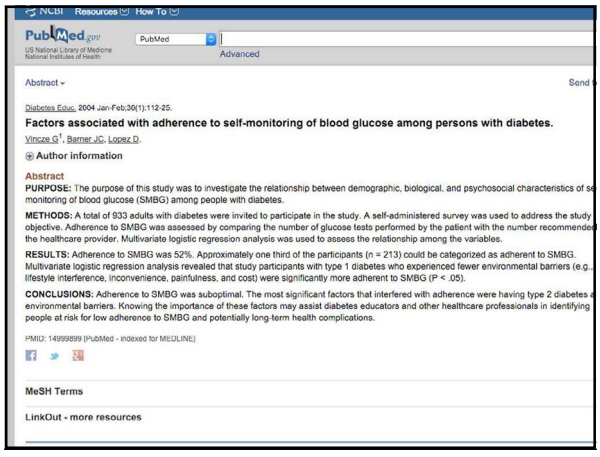

The people I want to study this with are...

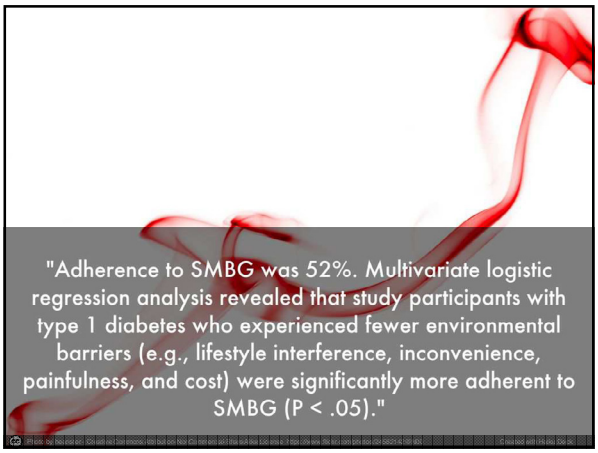

Quantitative vs. Qualitative

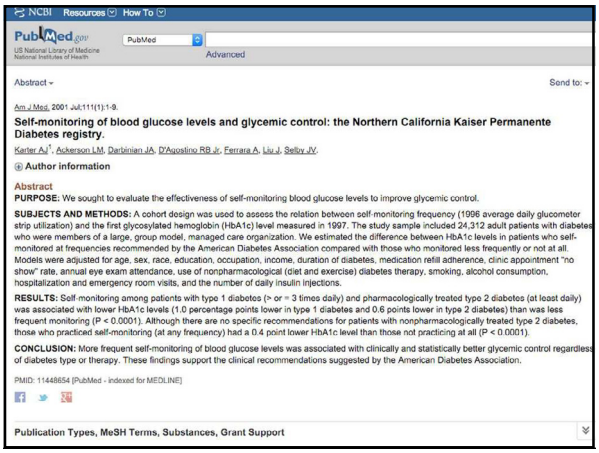

Quantitative research gives you numbers


Choose quantitative when you want to study an effect, cause, relationship or impact.


Action verbs for quantitative include measure, prove or compare.


PubMed.gov
US National Library of Medicine
National Institutes of Health
PubMed
Advanced
Abstract
Diabetes Educ. 2004 Jan-Feb;30(1):112-25.
Factors associated with adherence to self-monitoring of blood glucose among persons with diabetes.
Vincze G, Barner JC, Lopez D.
Author information
Abstract
PURPOSE: The purpose of this study was to investigate the relationship between demographic, biological, and psychosocial characteristics of
monitoring of blood glucose (SMBG) among people with diabetes.
METHODS: A total of 933 adults with diabetes were invited to participate in the study. A self-administered survey was used to address the study
objective. Adherence to SMBG was assessed by comparing the number of glucose tests performed by the patient with the number recommende
the healthcare provider. Multivariate logistic regression analysis was used to assess the relationship among the variables.
RESULTS: Adherence to SMBG was 52%. Approximately one third of the participants (n = 213) could be categorized as adherent to SMBG.
Multivariate logistic regression analysis revealed that study participants with type 1 diabetes who experienced fewer environmental barriers (e.g.,
lifestyle interference, inconvenience, painfulness, and cost) were significantly more adherent to SMBG (P < .05).
CONCLUSIONS: Adherence to SMBG was suboptimal. The most significant factors that interfered with adherence were having type 2 diabetes
environmental barriers. Knowing the importance of these factors may assist diabetes educators and other healthcare professionals in identifying
people at risk for low adherence to SMBG and potentially long-term health complications.
PMID: 14999899 [PubMed - indexed for MEDLINE]
MeSH Terms
LinkOut - more resources


"Adherence to SMBG was 52%. Multivariate logistic regression analysis revealed that study participants with type 1 diabetes who experienced fewer environmental barriers (e.g., lifestyle interference, inconvenience, painfulness, and cost) were significantly more adherent to SMBG (P < .05)."


NCBI Resources How To
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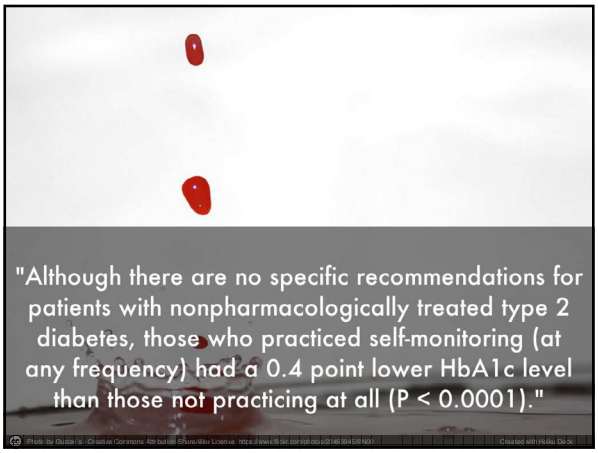
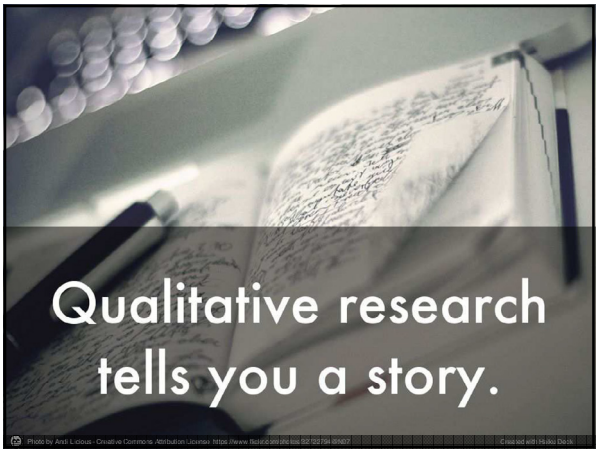
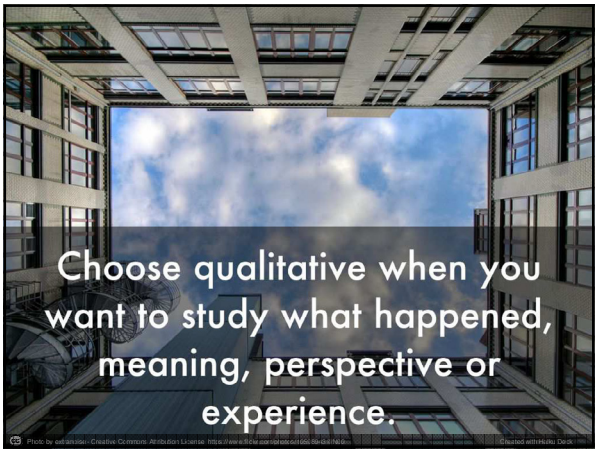
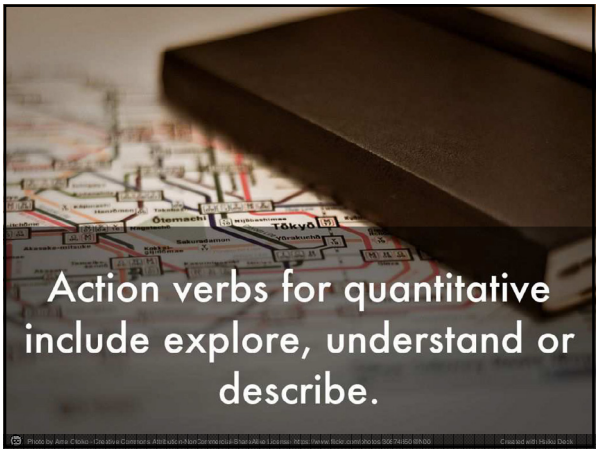
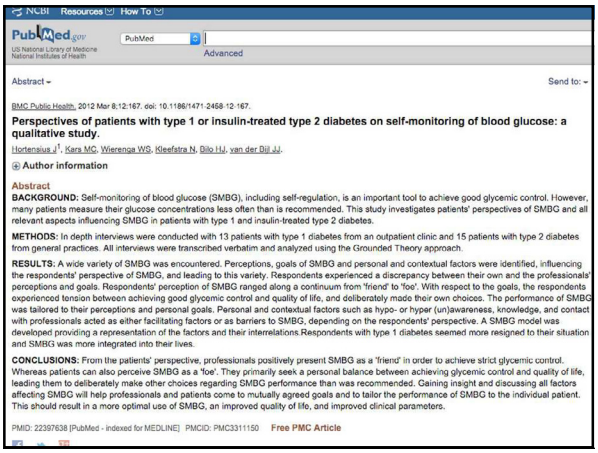
Abstract
Send to:
Am J Med. 2001 Jul;111(1):1-9.
Self-monitoring of blood glucose levels and glycemic control: the Northern California Kaiser Permanente Diabetes registry.
Karter AJ, Ackerson LM, Darbinian JA, D'Agostino RB Jr, Ferrara A, Liu J, Selby JV.
Author information
Abstract
PURPOSE: We sought to evaluate the effectiveness of self-monitoring blood glucose levels to improve glycemic control.
SUBJECTS AND METHODS: A cohort design was used to assess the relation between self-monitoring frequency (1996 average daily glucometer strip utilization) and the first glycosylated hemoglobin (HbA1c) level measured in 1997. The study sample included 24,312 adult patients with diabetes who were members of a large, group model, managed care organization. We estimated the difference between HbA1c levels in patients who self-monitored at frequencies recommended by the American Diabetes Association compared with those who monitored less frequently or not at all. Models were adjusted for age, sex, race, education, occupation, income, duration of diabetes, medication refill adherence, clinic appointment "no show" rate, annual eye exam attendance, use of nonpharmacological (diet and exercise) diabetes therapy, smoking, alcohol consumption, hospitalization and emergency room visits, and the number of daily insulin injections.
RESULTS: Self-monitoring among patients with type 1 diabetes (> or = 3 times daily) and pharmacologically treated type 2 diabetes (at least daily) was associated with lower HbA1c levels (1.0 percentage points lower in type 1 diabetes and 0.6 points lower in type 2 diabetes) than was less frequent monitoring (P < 0.0001). Although there are no specific recommendations for patients with nonpharmacologically treated type 2 diabetes, those who practiced self-monitoring (at any frequency) had a 0.4 point lower HbA1c level than those not practicing at all (P < 0.0001).
CONCLUSION: More frequent self-monitoring of blood glucose levels was associated with clinically and statistically better glycemic control regardless of diabetes type or therapy. These findings support the clinical recommendations suggested by the American Diabetes Association.
PMID: 11448654 [PubMed - indexed for MEDLINE]
Publication Types, MeSH Terms, Substances, Grant Support


"Although there are no specific recommendations for patients with nonpharmacologically treated type 2 diabetes, those who practiced self-monitoring (at any frequency) had a 0.4 point lower HbA1c level than those not practicing at all (P < 0.0001)."


Qualitative research tells you a story.


Choose qualitative when you want to study what happened, meaning, perspective or experience.


Action verbs for quantitative include explore, understand or describe.


PubMed.gov
US National Library of Medicine
National Institutes of Health
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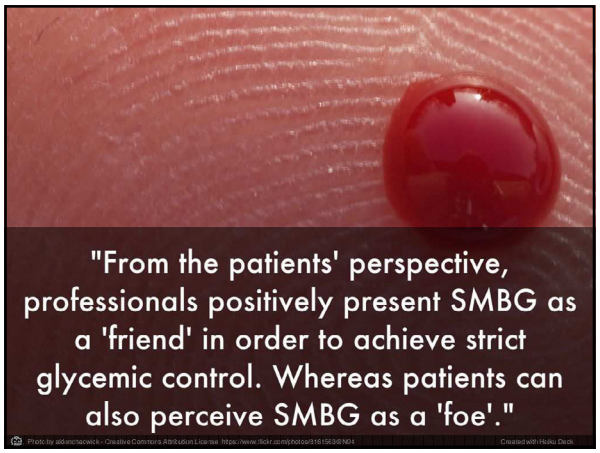
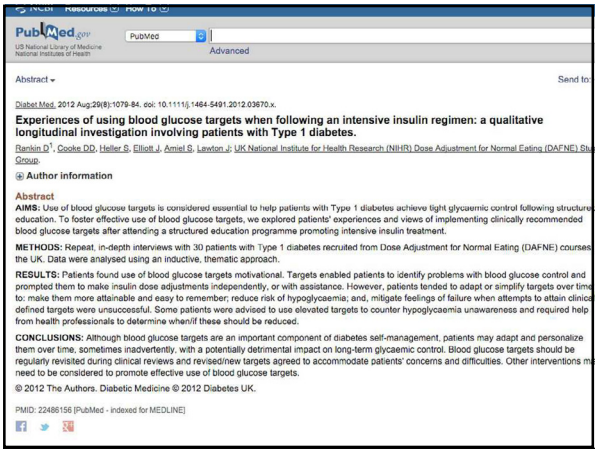
Abstract
Send to:
BMC Public Health. 2012 Mar 8;12:167. doi: 10.1186/1471-2458-12-167.
Perspectives of patients with type 1 or insulin-treated type 2 diabetes on self-monitoring of blood glucose: a qualitative study.
Hortensius J[1], Kars MC, Wierenga WS, Kleefstra N, Bilo HJ, van der Bijl JJ.
Author information
Abstract
BACKGROUND: Self-monitoring of blood glucose (SMBG), including self-regulation, is an important tool to achieve good glycemic control. However, many patients measure their glucose concentrations less often than is recommended. This study investigates patients' perspectives of SMBG and all relevant aspects influencing SMBG in patients with type 1 and insulin-treated type 2 diabetes.
METHODS: In depth interviews were conducted with 13 patients with type 1 diabetes from an outpatient clinic and 15 patients with type 2 diabetes from general practices. All interviews were transcribed verbatim and analyzed using the Grounded Theory approach.
RESULTS: A wide variety of SMBG was encountered. Perceptions, goals of SMBG and personal and contextual factors were identified, influencing the respondents' perspective of SMBG, and leading to this variety. Respondents experienced a discrepancy between their own and the professionals' perceptions and goals. Respondents' perception of SMBG ranged along a continuum from 'friend' to 'foe'. With respect to the goals, the respondents experienced tension between achieving good glycemic control and quality of life, and deliberately made their own choices. The performance of SMBG was tailored to their perceptions and personal goals. Personal and contextual factors such as hypo- or hyper (un)awareness, knowledge, and contact with professionals acted as either facilitating factors or as barriers to SMBG, depending on the respondents' perspective. A SMBG model was developed providing a representation of the factors and their interrelations.Respondents with type 1 diabetes seemed more resigned to their situation and SMBG was more integrated into their lives.
CONCLUSIONS: From the patients' perspective, professionals positively present SMBG as a 'friend' in order to achieve strict glycemic control. Whereas patients can also perceive SMBG as a 'foe'. They primarily seek a personal balance between achieving glycemic control and quality of life, leading them to deliberately make other choices regarding SMBG performance than was recommended. Gaining insight and discussing all factors affecting SMBG will help professionals and patients come to mutually agreed goals and to tailor the performance of SMBG to the individual patient. This should result in a more optimal use of SMBG, an improved quality of life, and improved clinical parameters.
PMID: 22397638 [PubMed - indexed for MEDLINE] PMCID: PMC3311150 Free PMC Article


"From the patients' perspective, professionals positively present SMBG as a 'friend' in order to achieve strict glycemic control. Whereas patients can also perceive SMBG as a 'foe'."


PubMed.gov
US National Library of Medicine
National Institutes of Health
PubMed
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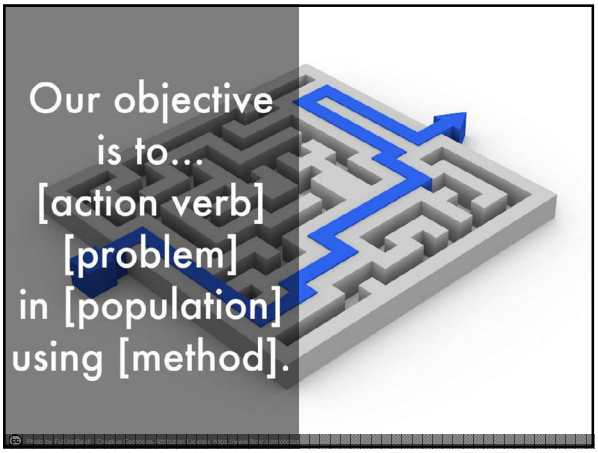
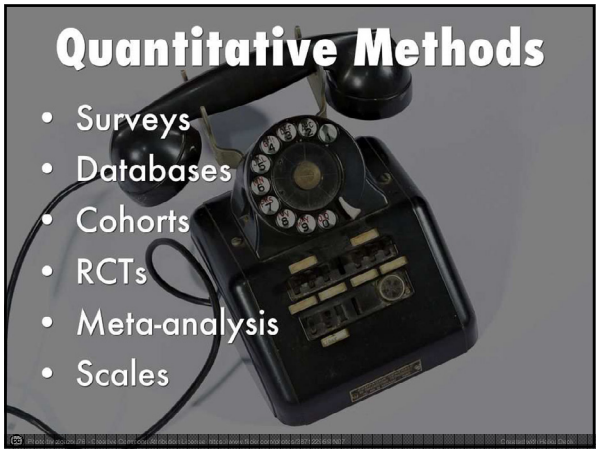
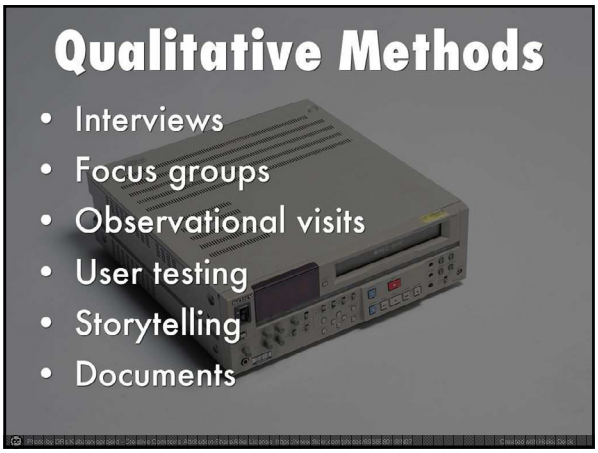
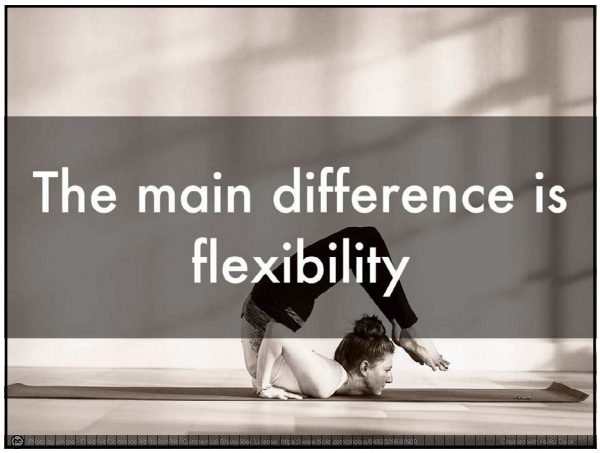
Abstract
Send to:
Diabet Med. 2012 Aug;29(8):1079-84. doi: 10.1111/j.1464-5491.2012.03670.x.
Experiences of using blood glucose targets when following an intensive insulin regimen: a qualitative longitudinal investigation involving patients with Type 1 diabetes.
Rankin D[1], Cooke DD, Heller S, Elliott J, Amiel S, Lawton J; UK National Institute for Health Research (NIHR) Dose Adjustment for Normal Eating (DAFNE) Study Group.
Author information
Abstract
AIMS: Use of blood glucose targets is considered essential to help patients with Type 1 diabetes achieve tight glycaemic control following structured education. To foster effective use of blood glucose targets, we explored patients' experiences and views of implementing clinically recommended blood glucose targets after attending a structured education programme promoting intensive insulin treatment.
METHODS: Repeat, in-depth interviews with 30 patients with Type 1 diabetes recruited from Dose Adjustment for Normal Eating (DAFNE) courses in the UK. Data were analysed using an inductive, thematic approach.
RESULTS: Patients found use of blood glucose targets motivational. Targets enabled patients to identify problems with blood glucose control and prompted them to make insulin dose adjustments independently, or with assistance. However, patients tended to adapt or simplify targets over time to: make them more attainable and easy to remember; reduce risk of hypoglycaemia; and, mitigate feelings of failure when attempts to attain clinically defined targets were unsuccessful. Some patients were advised to use elevated targets to counter hypoglycaemia unawareness and required help from health professionals to determine when/if these should be reduced.
CONCLUSIONS: Although blood glucose targets are an important component of diabetes self-management, patients may adapt and personalize them over time, sometimes inadvertently, with a potentially detrimental impact on long-term glycaemic control. Blood glucose targets should be regularly revisited during clinical reviews and revised/new targets agreed to accommodate patients' concerns and difficulties. Other interventions may need to be considered to promote effective use of blood glucose targets.
© 2012 The Authors. Diabetic Medicine © 2012 Diabetes UK.
PMID: 22486156 [PubMed - indexed for MEDLINE]

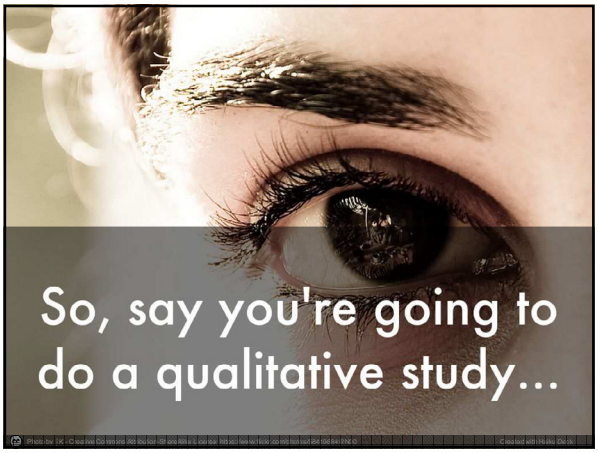

"Although blood glucose targets are an important component of diabetes self-management, patients may adapt and personalize them over time, sometimes inadvertently, with a potentially detrimental impact on long-term glycaemic control. "

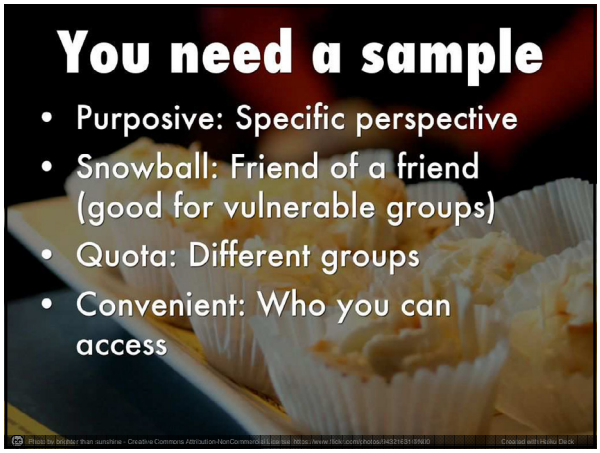

Our objective is to...
[action verb]
[problem]
in [population]
using [method].


Quantitative Methods
Surveys
Databases
Cohorts
RCTs
Meta-analysis
Scales

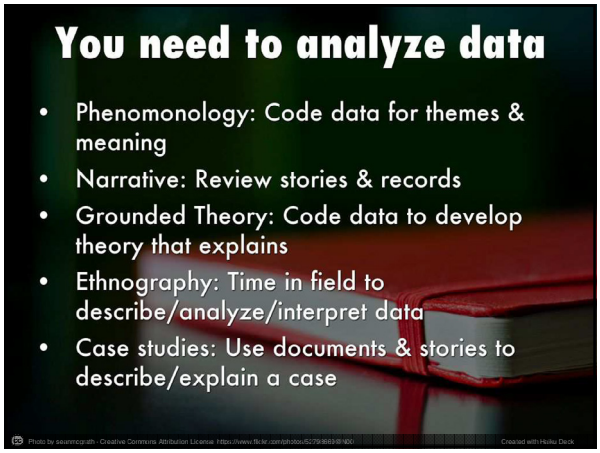

Qualitative Methods
• Interviews
• Focus groups
• Observational visits
• User testing
• Storytelling
• Documents


The main difference is flexibility


So, say you're going to do a qualitative study...


You need a sample
• Purposive: Specific perspective
• Snowball: Friend of a friend (good for vulnerable groups)
• Quota: Different groups
• Convenient: Who you can access


You need data
• Focus group: People talking
• Interview: Individual perspectives
• Observations: Life at work/home
• Storytelling: Life stories
• Documents: Records, tools


You need to analyze data
• Phenomonology: Code data for themes & meaning
• Narrative: Review stories & records
• Grounded Theory: Code data to develop theory that explains
• Ethnography: Time in field to describe/analyze/interpret data
• Case studies: Use documents & stories to describe/explain a case


The third study design:
Mixed Methods
Research

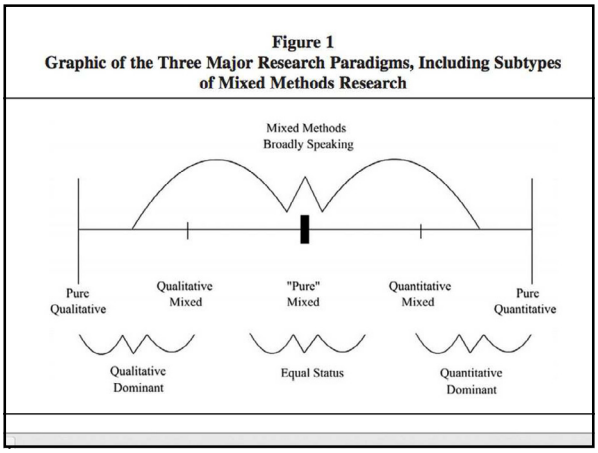
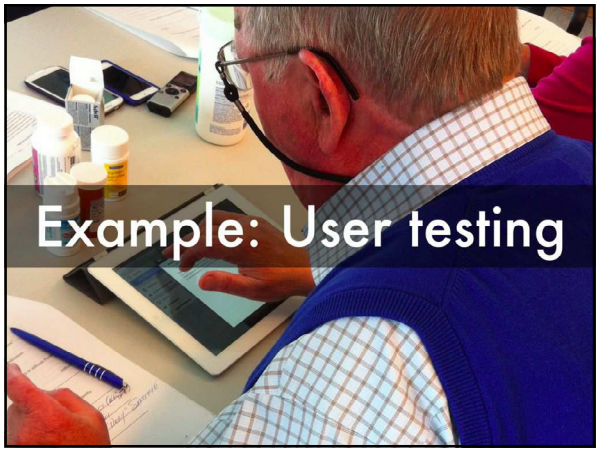
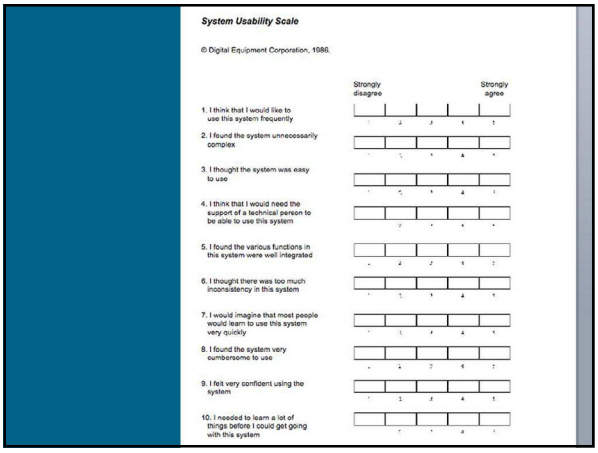
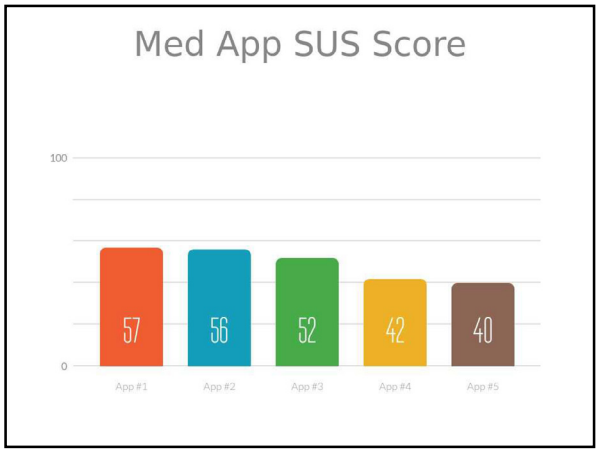
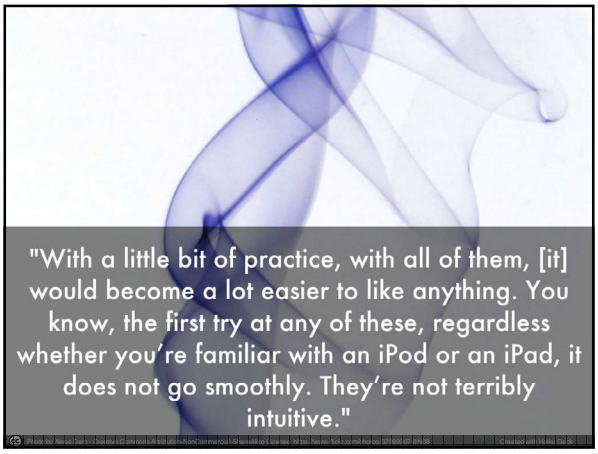


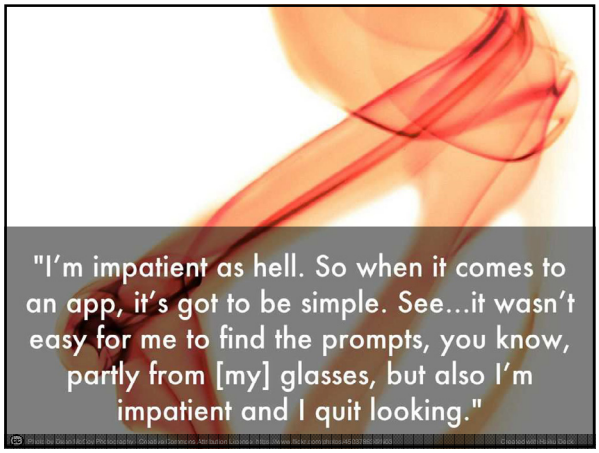
Figure 1
Graphic of the Three Major Research Paradigms, Including Subtypes of Mixed Methods Research
Mixed Methods
Broadly Speaking
Pure
Qualitative
Qualitative
Mixed
"Pure"
Mixed
Quantitative
Mixed
Pure
Quantitative
Qualitative
Dominant
Equal Status
Quantitative
Dominant


Example: User testing


System Usability Scale
© Digital Equipment Corporation, 1986.
Strongly disagree
Strongly agree
1. I think that I would like to use this system frequently
2. I found the system unnecessarily complex
3. I thought the system was easy to use
4. I think that I would need the support of a technical person to be able to use this system
5. I found the various functions in this system were well integrated
6. I thought there was too much inconsistency in this system
7. I would imagine that most people would learn to use this system very quickly
8. I found the system very cumbersome to use
9. I felt very confident using the system
10. I needed to learn a lot of things before I could get going with this system


Med App SUS Score
100
0
57
56
52
42
40
App #1
App #2
App #3
App #4
App #5


"With a little bit of practice, with all of them, [it] would become a lot easier to like anything. You know, the first try at any of these, regardless whether you're familiar with an iPod or an iPad, it does not go smoothly. They're not terribly intuitive."


"I'm impatient as hell. So when it comes to an app, it's got to be simple. See...it wasn't easy for me to find the prompts, you know, partly from [my] glasses, but also I'm impatient and I quit looking."


Objectives
• Describe the differences between quantitative and qualitative methods
• Develop an research plan involving interviews or focus groups
• Identify different analytic approaches for mixed methods research data
• Appreciate how mixed methods research can be used to provide better care

Technician Stream: Part 1: Pharmacy Technicians: The Road to Regulation

Yvonne Dresen, *University Hospital of Northern British Columbia – Northern Health, Prince George, BC*

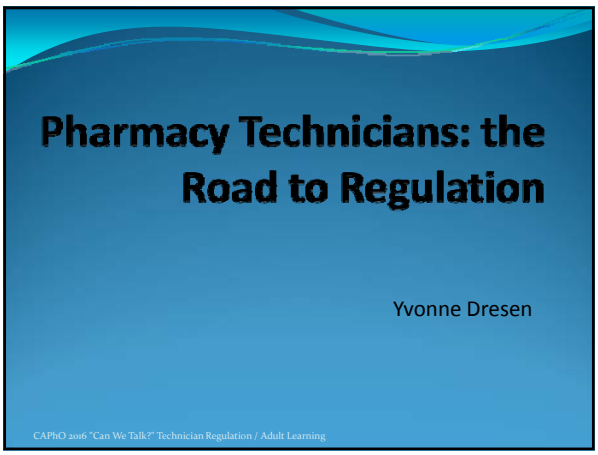
14:00-14:40 *(Strategy Room 2, 5th Level)*

***Yvonne Dresen** has worked in hospital pharmacy practice for 20 years and is currently the Pharmacy Technician CIVA Supervisor at the University Hospital of Northern British Columbia in Prince George. Prior to her role as the CIVA supervisor, Yvonne spent several years in role of sterile compound trainer for all department staff at UHNBC. In 2007, she helped develop a new role of Clinical Pharmacy Assistant in the Regional Oncology Unit and continued there until moving into her current position. She wrote the PTCB-AB certification exam in 2005 and became a registered Pharmacy Technician in the province of BC in 2012.*

The experience of becoming a registered Pharmacy Technician can take on many forms, anywhere from an exciting, challenging experience to a daunting task, especially when returning to learning after many years away. Putting your valuable time and effort to the best possible use is the key to success in the regulation process. How and where can we find support and information to turn this career altering ride into a smooth journey?

Learning Objectives:

- Understand the historical background and the process to date surrounding Technician regulation and its effect on the practice of pharmacy today;
- Develop methods of self-organization and preparation to aid the regulation process;
- Identify the daily tasks that may be impacted by the introduction of registered Technicians; and
- Recognize non-traditional and/or future roles registered Pharmacy Technicians may perform in the pharmacy setting.



- I have no conflicts of interest to disclose.

Objectives:

- Review regulation process to date
- Develop methods of self-organization and preparation to aid the regulation process
- Identify tasks that may be impacted by the introduction of registered technicians
- Recognize non-traditional and/or future roles for technicians

Regulation Process - background

- A national initiative for Canadian Pharmacy Technicians
- Essential learning for entry to practice
- Professional competencies
- Accreditation of training programs

History - National

- Sept 2007 – NAPRA develops professional competencies for Entry to Practice
- 2008 – Pharmacy Technician bridging education program developed in Ontario
- 2009 – NAPRA develops model Standards of Practice (updated 2011)
- 2010 – Pharmacy Technician bridging education program adapted for use in Alberta and BC

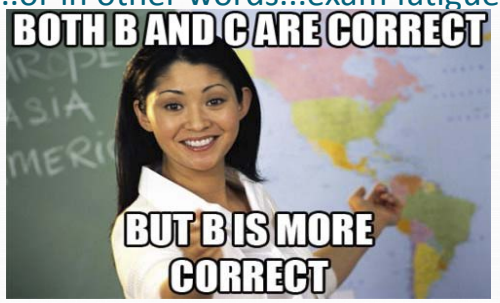
History – National (cont)

- 2011 – ON, AB and BC jointly assume administration of program
- 2011 – 2012 – other provinces recognize need for a national curriculum supporting consistency across Canada
- 2013 – national bridging education program completed
- As of Jan 2015 ~4349 registered Pharmacy Technicians in Canada and 8 provinces where Technicians are regulated profession

How did I get here?

- 2005 - Alberta Pharmacy Technician Certification Exam
- 2006 - Participated in the CPBC Business Case Analysis
- 2010 - Began BC bridging program Summer
- 2011 – Completed (survived???) PEBC exams

...or in other words...exam fatigue



What Was My Process?

- Started researched CPBC, NAPRA and PEBC websites
- Started bridging program as soon as was available
- Used a variety of different studying methods
- *Mock OSPE

"Pearls"

- Do something towards process regularly
- Give yourself more time than you think you will need (start early)
- Find (a) supportive group(s)
- Start as soon as you can

Why Are We Here?

- National competencies developed in 2007 by NAPRA to respond to changing Pharmacist and Technician roles
- Pharmacy Technicians have played a supportive role for past 30 years; as Pharmacists roles change, so will the Technician role expand

How did we get here – BC's Approach

- White Paper on Pharmacy Technicians March 2006
- Business Case Analysis on the Regulation of Pharmacy Technicians Nov 2006
- Recommended that the CPBC establish a new class of licensure for Pharmacy Technicians

Pharmacist and Technician Scope of Practice

- Practicing to full extent of knowledge
- Ensure the safety, security and integrity of drug distribution system
- Lead development of and participate in medication safety and quality improvement initiatives

Future Non-Traditional PT Roles

- Clinical Support Technician
- Warfarin Dosing
- Medication Reconciliation

Clinical Support Technician

- Nov 2008 – Dec 2011: Regional Cancer Care Unit Clinical Pharmacy Support Technician
- Organized daily workflow of UHNBC Oncology and Regional Oncology Pharmacists
- Collected lab results, PPO/chart review and calculations for Pharmacist
- Co-ordinate communication between Pharmacy CIVA and RCCU

Benefits of Clinical Pharmacy Support Technician

- Works in close collaboration with Pharmacist
- Allow Clinical Pharmacist to optimize time and focus on patient care
- Main liaison between Pharmacy and Nursing
- Education and specialized training and mentoring by Clinical Pharmacist necessary

Warfarin Dosing?

- Can a Pharmacy Technician dose warfarin?
- Accuracy of data collection 98.3% based on 60 patient encounters
- Dose recommendations differed by a mean of 0.46mg
- 39 of 60 dose recommendations were identical to Pharmacist

How could PTs achieve this knowledge?

- With appropriate training and education, it IS feasible for Clinical Pharmacy Support Technicians to support the pharmacy managed inpatient warfarin dosing program

Medication Reconciliation

- Accreditation Canada priority
- Goal is to reduce discrepancies by reconciling medications at admission, transfer and discharge
- Reduction of significant risk for medication errors if assuming PharmaNet* is complete and current

Medication Reconciliation (cont)

- Medication reconciliation is "here to stay"
- An ROP (required organizational practice) of Accreditation Canada
- Requires a multidisciplinary approach
- Success achieved if performed by different professionals at different transition points

Medication Reconciliation (cont)

- A 3 step process
- Create the most complete and accurate list possible of all home meds for each patient
- Utilizing that list when writing medication orders
- Comparing the list against physicians' admission/transfer/discharge orders and identifying discrepancies
- Physician notified and, if appropriate, make changes to the orders

Med Rec Study Results

- 300 medication histories taken in Emergency department (150 by Technicians, 150 by Nurses)
- 88% accuracy by Technician group
- 57% accuracy by Nursing group
- Conclusion: trained Pharmacy Technicians can assist prescribers and Nurses by improving the accuracy of medication histories

Med Rec Project in Richmond, BC

- Initially planned as a 6 month project
- Direct result of an Accreditation Canada recommendation
- 3 full-time Technicians verified the BPMH for patients admitted to the Emergency department
- Training materials for Technicians taken from Saskatchewan Health Region
- 4 weeks intense training plus 'Active Listening' workshop

Technician Stream: Part 2: Adult Learning

Colleen Thurber, *Saskatoon Cancer Centre, Saskatoon, SK*

14:00-14:40 *(Strategy Room 2, 5th Level)*

Colleen Thurber *received a Pharmacy Technician Certificate from SIAST in 1998 and started her career at Royal University Hospital inpatient pharmacy in Saskatoon, SK the same year. She spent the next 6 years at RUH before accepting a temporary position at the Saskatoon Cancer Centre in 2004. In 2009 Colleen accepted a permanent position at the Saskatoon Cancer Centre in a senior pharmacy technician role. Colleen is a member of the CAPhO Executive, acting as the Committee Chair for Pharmacy Technicians and Assistants. She is currently in the process of becoming a licensed pharmacy technician and is looking forward to the new challenges this may present.*

Let's talk about the challenges of adapting to the ever changing, and rapidly evolving landscape of oncology pharmacy practice. Each province has committed to welcoming Pharmacy Technicians as a new class of pharmacy professionals, but the journey doesn't end there. Once the process of registration is complete, continuing professional development is essential. Individuals can benefit by becoming familiar with the preferences and styles of adult learners, and the challenges that may stand in the way of success. Competing commitments, anxiety and time constraints are a reality for many. How can an individual overcome these potential obstacles and become more confident adult learners?

Learning Objectives:

- Identify characteristics of adult learners;
- Explore fundamentals of adult learning;
- Discuss how obtaining required education may not be ideally suited for adult learners; and
- Identify strategies for successful learning.

Adult Learning

andragogy
an-druh-goh-jee
the theory and practice of education of adults

autodidacticism
or self-education is the act of self-directed learning about a subject or subjects in which one has had little to no formal education

I have no conflicts of interest to disclose

Objectives

- Identify characteristics of adult learners
- Explore fundamentals of adult learning
- Discuss how obtaining required education may not be ideally suited for adult learners
- Identify strategies for successful learning

A little bit about my journey

- **Regulation process**
  Bridging program, PEBC exams
- **Continuing education**
- **Change of practice**
- **Orientation to a new role**
- **Mentoring, training others**
  Students, new staff, other departments

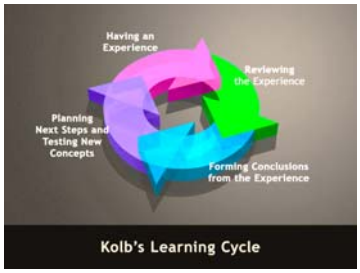
Childhood Learning

- Teacher/instructor is the leader and decides:
  - what is taught
  - how/when content is presented
  - how learning is measured
- Critical thinking less developed, not much experience to draw from, less independent, less directed to specific areas of study

Nature of Adult Learners

- Self-directed
- Bring experience to the learning process
- Come ready to learn
- Want to apply what they learn
- Need to know the reason for learning something
- Driven by an intrinsic motivation to learn

Kolb's Learning cycle



"Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand."

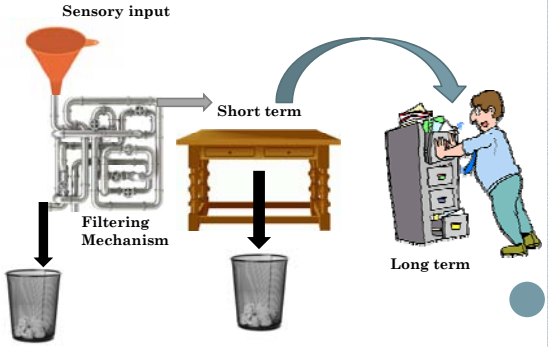
Confucius -450 BC

Kolb's Learning cycle

- New experience
- **Observe, reflect and identify any differences between experience and understanding**
- **Formulate a new idea or change and existing idea**
- Apply new idea

Familiar?

The memory process



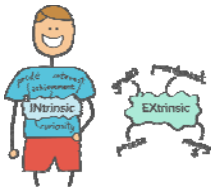
Learning Obstacles

- Stress/Anxiety
- Relevance
- Multiple Roles
- Self-doubt
- Time Constraints

Motivation

Learning anxiety
- Fear of something new

Survival anxiety
- In order to make it you have to accept the challenge



The need or desire to do something

Self-talk

- Self-talk includes our conscious thoughts as well as our unconscious assumptions or beliefs
- Much of our self-talk is reasonable -
  "I'd better prepare for that exam"
- Negative self-talk causes an increase in stress -
  "I'll never be able to learn this"
  "I could never do that"

Five tips for success

1. **Imagine the outcome**
   - Find your purpose - how will it change what you do?
2. **Think of text as a starting point**
   - Discuss, try things out
3. **Learn in your language**
   - Be aware of your learning needs and adapt material
4. **Accept failure**
   - Roll with it and learn from your mistakes
5. **Be accountable**
   - Deadlines mean accountability

Identify Your Learning Style

- **Visual**
  - Diagrams, photos, notes
- **Auditory**
  - Say things aloud, group discussion
- **Kinaesthetic**
  - Building, creating

The TRAP Method

Translate – information or ideas into your own words

Repeat – rehearse information immediately and relate new ideas to old

A picture – visualize the information

Practice – the more the information is practiced, the better it will be recalled

Challenges associated with online learning

- Self-discipline
- Lack of one-on-one interaction
- Time management
- Increased reading

To be successful

- Read the course outline
- Plan weekly study times
- Log in three times per week
- Make connections with your classmates
- Ask questions

Seeking Help

- Email your instructor
- Post a forum question
- Ask a colleague

When All Else Fails

Google

YouTube

Study Strategies

- Know how will you be evaluated
- Organize your notes
- Study in shorter sessions
- Avoid cramming

General Exam Strategies

- Keep a positive attitude & try to stay relaxed
- Read the **entire** question & **pay attention to the details**
- If you have time left, look over your exam

Self Care

- Reduce stress
- Get a good night's sleep
- Eat well, hydrate

Concurrent Sessions 2

Administrative Stream: The Down and Dirty of Sterile Compounding and USP 797/800

Gwen Liu, *Hamilton Health Sciences, Hamilton, ON*
Carolyn Sloot, *Hamilton Health Sciences, Hamilton, ON*

14:45-15:25 *(Strategy Room 3, 5th Level)*

Dr. Gwen Liu *graduated from the Faculty of Pharmacy at the University of Toronto in 1998, and completed a hospital residency in 1999. She obtained her Doctorate of Pharmacy at the University of Washington in 2004. Dr. Liu has worked in academic hospital pharmacies for over 15 years while in Hamilton, Ontario and Vancouver, British Columbia. She has been involved in clinical pharmacy, drug use evaluation, and project management. Her current role as Sterile Compounding and Projects Manager at Hamilton Health Sciences has her leading several sterile compounding committees and developing policies and procedures to incorporate the new sterile compounding standards across the six hospital sites. During this time she has guided the renovation of the cleanrooms at the different sites according to the new guidelines.*

Carolyn Sloot *graduated from Humber College in 1984. Since then, she has worked as a Pharmacy Technician at McMaster Hospital, now part of Hamilton Health Sciences. Currently, Carolyn is the Senior Pharmacy Technician for the In-Patient pharmacy department and is vital in facilitating safe medication practices, as well as ensuring standardized processes are in place. Carolyn's current responsibility is in training, supervising and testing staff on aseptic technique. Carolyn is also a valued and respected member of multiple committees within Hamilton Health Sciences including the Medication Safety Committee, Sharps Committee and Pharmacy Operations Committee.*

With the introduction of new national as well as provincial sterile compounding standards and guidelines, there has been an emphasis on adopting and implementing these changes in the hospital setting. This presentation will give a succinct overview of the sterile compounding standards: USP 797 and 800, the framework adopted for these new guidelines. Emphasis will be given to providing a practical approach to initiating adoption of these standards. Of particular importance we will focus on environmental monitoring of viable and non-viable particle counts in sterile cleanrooms. We will also review the requirements for verification of pharmacy staff aseptic technique using fingertip and media fill testing. Practical information will be provided based on the experiences learned from implementing these testing requirements.

Learning Objectives:

- Understand the role of USP 797/800 in sterile compounding practices;
- Understand the importance of environmental testing in sterile cleanrooms; and
- Understand the importance of personnel aseptic media fill and fingertip testing as a validation of aseptic technique.

The Down and Dirty on USP 797/800

Disclaimer

- We have received no affiliation or funding from outside sources
- You will ***not*** learn ***everything*** about USP 797/800 in a 30 min presentation

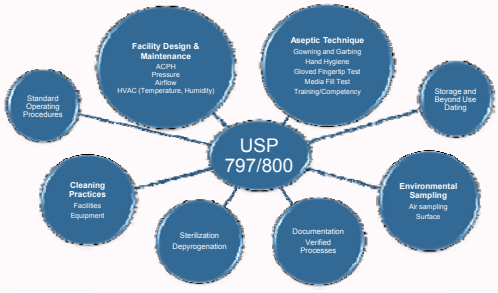
Objectives

- Overview of USP 797 & USP 800 and its role in sterile compounding
- How to get started
  - Environmental Particle Monitoring
  - Gloved Fingertip Test
  - Media Fill Test

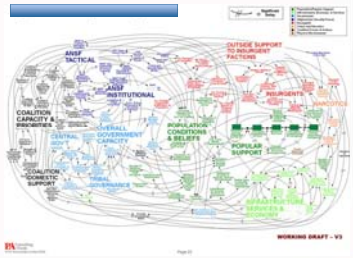
Purpose of USP 797/800

- Describe conditions and practices to prevent harm (including death) to patients
- Promotes fundamental accuracy and quality practices for preparing CSPs
- Foundation for development and implementation of essential procedures for the safe preparation of CSPs
- Minimum requirements for sterile compounding

Tragedies



Where do we start?



Environmental Particle Monitoring

OUR ENEMY

Its small…

Its invisible

and potentially deadly…

Its…the particle.

Types of Particles

Viable Particles	Non-Viable Particles
• Contains one or more living microorganisms	• Does not contain living microorganisms • Acts as a transportation for viable particles
Examples: • Bacteria • Fungi & spores • Yeast • Mold	Examples: • Dust • Dirt • Fibers • Cloth • Chemical compounds in makeup • Rust • Metal

Reference: Kelly J. Pharmaceutcial Industry Cleanroom Monitoring: Viable and Non-Viable Particle Detection. Controlled Environments Magazine Jan 1, 2005

Environmental Particle Monitoring

- Purpose:
  - Routine verification that the facilities and equipment are maintaining an environment within the compounding area that consistently ensures acceptably low viable and nonviable particle levels
- When:
  - Part of commissioning and certification of new facilities and equipment
  - Following any servicing of facilities and equipment
  - Recertification of facilities and equipment (every 6 months)
  - In response to identified problems with end products or staff technique
  - In response to issues with CSPs, observed compounding personnel work practices or patient-related infections

Viable Particles	Non-Viable Particles
Evaluates the competency of compounding and housekeeping personnel work practices	Intended to directly measure the performance of the engineering controls used to create the various levels of air cleanliness
• Garbing & hand hygiene • Aseptic work practices/technique • Cleaning/disinfection procedures	• ACPH • Pressure differentials • Air flow

ISO Classification of Particles

ISO Class	Compounding Area	Non-Viable Particles (≥0.5 µm per cubic meter of air)	Viable Particles (CFU/cubic meter of air/plate)
ISO Class 5	• LAFW • BSC • CAI • CACI	<3,520	<1
ISO Class 7	• Cleanroom • Hazardous Anteroom	<352,000	<10
ISO Class 8	• Anteroom	<3,520,000	<100

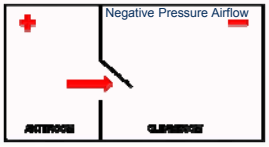
Reference: USP 797 Table 1: ISO Classification of Particulate Matter in Room Air

Sampling Plan

- Test in locations prone to contamination during compounding activities
  - # of samples dependent on room size, # of hoods
  - Inside and around PEC
  - Follow where drugs travel and where there is an interaction of people and product (preparation countertops in cleanroom/anteroom)
  - Doorways, shelves, passthroughs, in front of refrigerators

Negative Pressure Airflow

- Recirculating airflow minimizes the possibility of hazardous materials escaping the work area
- Net flow of air is into the cleanroom



Particle Count Monitoring

- What is involved?
  - Volumetric Air Sampler
  - Trypticase Soy Agar (TSA) plates with lecithin and polysorbate 80
  - Incubation 30-35 degrees Celsius for 48 to 72 hours

Environmental Monitoring

What You May Be Thinking

- Physical facility does not meet requirements
- What will tests yield?
- What if I get a fail? What do I do?

What You May Do

Hamilton Health Sciences Pharmacy Pilot

- 2014, working group (HHS occupational hygienist, pharmacy)
  - Phase 1: 5 Pharmacy sites (6 cleanrooms)
  - Phase 2: 4 Satellite pharmacies, 1 retail pharmacy
- Considerations
  - Leadership support
  - Who will do our testing? In-house vs outsourced?
  - Costs
  - What is considered a critical failure vs non-critical failure?
  - What is our action plan?
    - How will you treat failures?
    - Retesting plan?

Environmental Monitoring Program

Benefits:

- Highlight need for renovations
  - Satellite pharmacies
- Validation of proper airflows and air changes
  - Ensure proper ventilation requirements after renovation
- Validation of cleaning practices
- Measurement tool to track trends

Gloved Fingertip Test

When is GFS Performed?

- Initial GFS is performed for new staff during the initial competency evaluation
  - on three separate but consecutive occasions
  - After gowning and garbing and before applying sterile 70% isopropyl alcohol
- Ongoing GFS is performed
  - annually for personnel who prepare low- or medium-risk compounds
  - semi-annually for personnel who prepare high-risk compounds

What Do I Need To Get Started?

1. Incubator
2. Tryptic Soy Broth Agar 60mm plates
3. Sharpie/Labels
4. Tape/Paraffin Wax
5. Documentation Log

Procedure

1. Gather **2** TSA plates for ***each*** employee to be sampled
2. Inspect the plates
3. Record: Manufacturer; Lot number; and Expiration Date on log
4. With a "Sharpie" pen, label the bottom of each plate with
   a) Name of employee
   b) Date
   c) Designate "Left" on one plate and "Right" on the other plate
   d) Identify situation for testing

Procedure

5. Wipe exterior of covered plates with sIPA, prior to bringing into the controlled environment.
6. Employee will complete garbing and hand hygiene as per SOP and prior to disinfecting sterile gloves with sterile IPA.
7. Gently roll finger and thumb "pad" from one hand onto the contact plate with sufficient force to make slight depressions in the agar.
   - Note: Do not use "tip" of finger

Procedure

8. Cover and seal plate
9. Repeat for other hand
10. Employee will discard gloves, perform hand hygiene and put on new pair of gloves.
11. Incubate samples 30 to 35 Celsius for 48 -72 hrs
12. Record results in log

Considerations

- Talk to your organization's Microbiologist
  - Processing/reading of agar plates in Pharmacy vs Microbiology
- Placement of incubator
- Disposal of agar plates

Media Fill Test

Media Fill Test

Purpose:
- Verify and continuously monitor the quality of aseptic technique of the compounder and compounding environment as well as processes used to produce sterile preparations.

Procedure:
- Simulate a scenario under conditions that closely simulate the most challenging or stressful conditions encountered during compounding

When is Media Fill Test Performed?

Initial Media Fill testing is performed for new staff during the initial competency assessment
- in association with hand hygiene and garbing competency
- in association with Gloved Fingertip Sampling
- on three separate but consecutive occasions

Ongoing Media Fill testing is performed
- in association with Gloved Fingertip Sampling
- annually for personnel who prepare low- or medium-risk compounds
- semi-annually for personnel who prepare high-risk compounds

Procedure

Equipment:
- Incubator
- Tryptic Soy Broth Bags/Vials
- Syringe, needles
- Sterile 70% IPA, wipes
- Label(s):
  - Date prepared
  - BSC #
  - MFU Number (1,2,3….)
  - Initials of the person
  - The words: "NOT FOR HUMAN USE, DO NOT INFUSE"
- Documentation logs


Example of Media Fill Test

1. Assemble all components and visually inspect for defects
2. Record lot # and expiry dates in log
3. Disinfect all materials prior to placement in LFH or BSC
4. Perform procedure
5. Incubate 20-25 or 30-35 degrees Celsius x 14 days
   - Failure: Turbidity or cloudiness observed

Sample Low/Medium Fill Test Procedure

1. Sanitize the injection ports of the bag and vial of TSB growth medium with sterile 70% isopropyl alcohol.
   a) 20 sterile 18 gauge 1" blunt needles
   b) 1 sterile 3 mL disposable syringe.
2. Remove the syringe from the pouch and place the syringe in the work space.
3. Aseptically attach the needle to the 3mL syringe.
4. Withdraw 1mL of TSB from the TSB vial and inject the TSB into the bag of sterile TSB. Change the needle after each transfer.
5. Using the same syringe and receiving bag, repeat steps 3-4 through 19 more times, using 19 different needles. At the end of the transfer, there will be approximately 120 mL in the minibag.

- Taken from: QI Medical Low/Medium Risk Personal Aseptic Technique Test Kit

Procedure

- Media fill kit vendors i.e. HardyVal™, QI Medical™
- Certificate of Analysis certifies contents of solution
- Growth promotion test certifies medium will support growth of microorganisms
- Perform under worst case conditions i.e. end of busy day
- Should not be performed during compounding of CSPs due to potential for cross-contamination and dispensing errors


Considerations

- Timing of result assessment
  - do not schedule the mid/final 14 day assessment when assessor is away/weekend
- Frequency
  - Consider volume of CSPs for each compounding procedure
  - Number of patients receiving batch
  - Complexity of compounding procedure
- Talk to the Microbiologist at your organization

Confucius says:

- "The man who moves a mountain begins by carrying away small stones."

Clinical Stream: Challenges in the Management of Elderly Patients with Cancer

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

14:45-15:25 *(Great Room C, 3rd Level)*

***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 completed a Master's degree in Oncology from Newcastle University in 2015*

Learning Objectives:

- Discuss the complexity of age-related physiologic and pathologic changes in elderly cancer patients;
- Review the evidence for elderly cancer patients and their ability to tolerate systemic chemotherapy, targeted therapy and supportive care; and
- Identify the barriers to under treatment of elderly cancer patients with systemic therapies for cancer.

Research Stream: The First Step is the Biggest: Moving from an Idea to Action in Research Using Qualitative and Quantitative Methods

Zubin Austin, *University of Toronto, Toronto, ON*

14:45-15:25 *(Strategy Room 7, 5th Level)*

***Zubin Austin** BScPhm MBA MISc PhD is full professor, inaugural holder of the Murray Koffler Chair in Management, and Academic Director of the Centre for Practice Excellence at the Leslie Dan Faculty of Pharmacy. His research interests focus on professional and personal development in the healthcare workforce. He has published over 80 peer reviewed manuscripts, authored 3 reference texts and has won awards for his research from the American Association of Colleges of Pharmacy, the Association of Faculties of Pharmacy of Canada, and the Canadian Pharmacists' Association. He is also an award winning educator having received the Province of Ontario's Leadership in Faculty Teaching Award, the University of Toronto's President's Teaching Award, and he has been named undergraduate Professor of the Year by students on 16 separate occasions.*

Quantitative and qualitative research and methods are sometimes portrayed as being opposed rather than complementary. Both traditions have specific strengths and limitations, and can be applied to professional practice in different ways. In this presentation, we will review general principles of rigour, methodology, application, and utility associated with each of these forms of research.

Learning Objectives:

- Describe circumstances where qualitative and quantitative research methods may be more appropriately applied;
- Discuss principles for evaluating quality and rigour of qualitative and quantitative research; and
- Discuss principles for applying qualitative and quantitative research findings to practice-based situations.

The first step is the biggest: moving from an idea to action in research using qualitative and quantitative methods

Zubin Austin BScPhm MBA MISc PhD
Professor and Murray Koffler Chair in Management
Leslie Dan Faculty of Pharmacy
University of Toronto

Disclosure

Zubin Austin has no conflict of interests to declare. He will receive an honorarium for development and delivery of this presentation from CAPhO.

Background

- Many of our day-to-day observations about our world (our practice sites, educational settings, colleagues, etc) may form the basis for important and interesting research
- Translating an observation into an idea then into a feasible research question is an important skill for clinicians interested in quality improvement, scholarly work, and educational innovation…it is also a daunting first step for many of us!

Objectives

Upon completion of this workshop, you will be able to:

a) Describe the attributes of an effective research question
b) Critique research questions and identify opportunities for improvement
c) Evaluate qualitative and quantitative methodological options to answer a given research question

Is what I do REALLY research?

Boyer: "Scholarship Reconsidered"

- *Discovery:* original research that advances knowledge
- *Integration:* synthesis across disciplines/topics
- *Application:* systematic study of processes that allows for sharing
- *SOTL:* scholarship of teaching and learning

Observation as sources for ideas for research

- Clinicians' daily lives are jam packed with events
- Problem-solving frequently drives our agenda
- Patterns/replications alert us to environmental phenomena that may be of interest
- Desire for improvement may drive enthusiasm
- Simple curiosity is frequently the fuel for researchers

The observation

Increasing numbers of female students across all the health professions: where have all the boys gone?

Is this a "problem"? Why does sex matter?

Is this a pattern or a blip? Is it worth exploring?

Is "improvement" needed? What would "improvement" look like in this context?

Are we simply curious as to why this reality is?

From observation to ideas

- The topic or issue should be relevant and novel
- The question should be neither too broad (so as to be unanswerable) nor too narrow (so as to only appeal to a very small audience)
- Is it actually feasible/possible to explore this area given resources and other realities?
- How ethical is this line of inquiry?
- Is it self-serving or not?

From idea to question

- "Where have all the boys gone in health professions education?"

Activity 1: In your groups, generate a list of three possible research questions that you would use to address this topic

Activity 2: With another group, share and critique one another's generated question list

Attributes of effective research questions

- Appropriate and acknowledged stance of the researcher
- Descriptive vs critical orientation
- Hypothesis driven vs. theory generating

The stance of the researcher

- Positivist vs post-positivist stances
- *Positivism:* holds that the scientific method is the best approach to uncovering a truth which exists, is testable, is reproducible and independent of context
- *Post-positivism:* holds that multiple truths simultaneously exist, researcher bias is critical to acknowledge, and that there is neither need nor possibility of generalizability or reproducibility independent of context

The orientation of the researcher

- *Descriptive* = desire to simply document and report reality, and perhaps to understand it
- *Critical* = need to understand in order to change/advance/improve upon status quo which is bound to externalities such as power, status, hierarchy, etc.

Hypothesis vs Theory

- Data generates theory which can subsequently be tested and eventually lead to discovery
- Hypothesis driven = theory testing

Common pitfalls in framing a research question

- The question is not of interest/significance in the field
- The question is not grounded in existing literature, simply the researcher's interest
- Question is too diffuse
- Key terms are undefined, subjective, vulnerable to interpretation and bias
- Question is too large/diffuse to actually be answered
- Question is innovative and interesting but has no link to a feasible method/methodology
- Researcher's agenda is conspicuous and detrimental
- Researcher's agenda is hidden and detrimental
- Researcher is unaware of her/his agenda

Research Questions and Research Methods

Methods Then Questions ✖

Question THEN methods ✔

Types of Research

- Qualitative
- Quantitative
- Mixed Methods

Quantitative Research

- Associated with the positivist/post positivist paradigm involved with collecting and converting data into numerical form so that statistical calculations can be made and conclusions drawn
- Process involves generating a hypothesis which are predictions about possible relationships between things want to investigate (variables)
- Researcher knows clearly in advance what he/she is looking for
- Study is designed before data is collected
- Researcher uses tools, such as questionnaires or equipment to collect numerical data
- Data is in the form of numbers and statistics
- Objective - seeks precise measurement & analysis of target concepts, e.g., uses surveys, questionnaires etc.
- Researcher tends to remain objectively separated from the subject matter

Qualitative Research

- Associated with social constructivist paradigm which emphasizes socially constructed nature of reality
- Process involves recording, analyzing and uncovering deeper meaning and significance of human behaviour and experience
- Interested in rich and complex understanding of peoples experience
- The design emerges as the study unfolds
- Data is in the form of words, pictures or objects
- Subjective - individuals interpretation of events is important e.g., participant observation, in-depth interviews etc.
- Qualitative data is time consuming, and less able to be generalized
- Researcher tends to become subjectively immersed in the subject matter

Qualitative vs Quantitative Data

Overview	Overview
• Deals with descriptions	• Deals with numbers
• Data can be observed but not measured	• Data which can be measured
• Colors, textures, smells, tastes, appearance, beauty, etc.	• Length, height, area, volume, weight, speed, time, temperature, humidity, sound levels, cost, members, ages, etc.
• **Qualit**ative → **Qualit**y	• **Quantit**ative → **Quantit**y

Mixed Method Research

- Combination of methods including variety of data sources, different researchers, multiple perspectives to interpret results and multiple methods to study problem

Summary

Your question(s) should be:

✓ of interest/significance in the field

✓ grounded in existing literature

✓ focussed

✓ innovative and interesting AND can be linked to a feasible method/methodology

"The important thing is not to stop questioning"
- Einstein

Some references

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Technician Stream: Sterile Compounding: Wiping the Slate Clean

Jody Read, *Alberta Health Services, Red Deer Country, AB*

14:45-15:25 *(Strategy Room 2, 5th Level)*

***Jody Read**, RPhT, graduated from Red Deer College with her Pharmacy Technician Certificate, in 1989 and is registered with the Alberta College of Pharmacists. Jody works for Alberta Health Services (AHS), Pharmacy Services, as a Technical Practice Lead. She has been practicing in hospital pharmacy for the last 25 years, and enjoys the opportunities her current role provides; to help guide and support Pharmacy Assistants and Technicians in understanding and achieving advancement of pharmacy practice by working to their full scope. The last few years, her main initiative has been standardizing and introducing best practice, in sterile compounding, to all sites in AHS that prepare Compounded Sterile Preparations. Jody was fortunate enough to attend the Critical Point Sterile Compounding Bootcamp in April 2015, which has given her a better understanding of the sterile compounding world.*

As pharmacy personnel working in a sterile compounding environment, all of the activities that we participate in contribute to success, and enhance patient safety. Overlooking what seems to be the simplest processes in a sterile environment often have the biggest impact; personal preparedness, proper hand washing, garbing and gloving, and cleaning your work environment efficiently. From the simplest to the most complicated procedures, compounding personnel must realize if any one of these activities is done poorly, the patient is not receiving the best care possible.

Taking pride and ownership of our controlled areas, by taking a step back and looking at standardizing training programs, the creation of cleaning and disinfecting checklists and the introduction of easy to follow guidelines for not only pharmacy personnel, but also environmental services staff ensures we deliver quality products.

Learning Objectives:

- Become familiar with appropriate cleaning terminology used in sterile compounding areas;
- Understand how everyone plays a part in contributing a contaminant free sterile environment; and
- Gain helpful tips to maintain the cleanliness of your controlled environments.

Sterile Compounding: Wiping the Slate Clean

CAPhO
April 2016

Disclaimer

- Although Jody Read is an employee of Alberta Health Services (AHS), she is speaking today in her own capacity and not on behalf of AHS.
- The views and opinions are her own and do not necessarily reflect the views of AHS Pharmacy Services.
- I have been offered an honoraria for the presentation that I will use towards education.

2

Learning Objectives

- Become familiar with appropriate cleaning terminology use in sterile compounding areas
- Understand how everyone plays a part in contributing to a contaminant free sterile environment
- Gain helpful tips to maintain the cleanliness of your controlled environments

3

Who Am I?

- Jody Read RPhT
- I have worked in hospital pharmacy for 26 years
  - 22 years in the acute care pharmacy department
  - 4 years as a Technical Practice Lead
- In those 4 years:
  - Written a Sterile Compounding Orientation and Training Manual for Alberta Health Services (AHS)
  - Implemented Sterile Compounding best practice to all sites across AHS
  - Write a monthly newsletter: AHS Aseptic Advocate

4

Acknowledgments

- Technical Practice Team
- Environmental Services Practice Leads
- AHS Aseptic Leads Group

5

- A Clean Slate
  - Starting anew, with a fresh approach. A clean slate begins with the action of "wiping the slate clean."

6

Cleanroom Cleaning

- How?
- When?
- Why?
- With what?
- Who?
- Where to begin?
- What??????

7

Clean Slate…

- Drift in Cleanroom Activities
  - Personnel
  - PPE
  - Always contamination where people are!
- Have a look with other eyes
  - Compounding personnel
  - Environmental Staff

8

Let's visit the cleanroom…

- Don appropriate PPE
- Take a step inside
- Have a look around
- What do you see?
- Record what you see
- Let Sterile Alcohol Swabs guide you

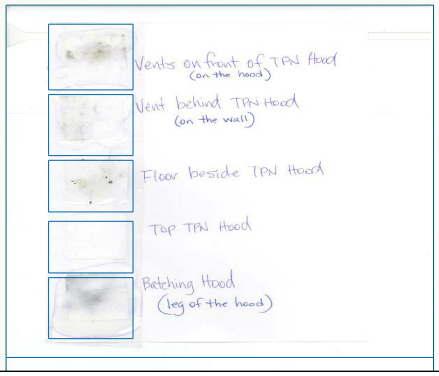
9

Do a walk through

- What do you see?
- What are you stepping over?
- What do you have to move?
- What has to be pushed to the side?
- Can you walk in a straight line from the back of the room to the door?
- Take pictures
- Take swab samples

10

Sterile Alcohol Swab Results

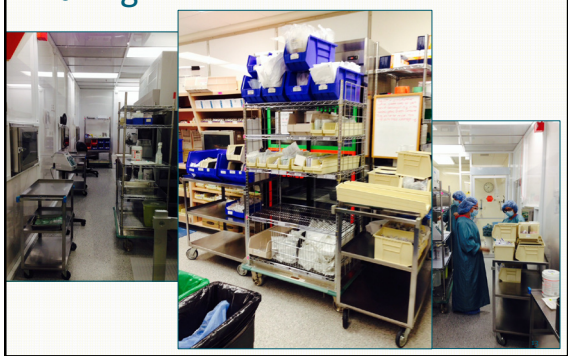


11

Before

12

During



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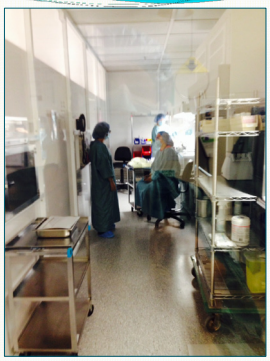


14

Ready, set … go!

Time to create perfect cleanroom cleaning practices:

- Have a look at your cleaning schedule(s)
- Meet with Environmental Services Management and staff
  - Create a checklist, schedule, cleansers, equipment
  - PPE and Hand hygiene training and checklists
- Meet with IPC (Infection Prevention & Controls)
  - Discuss cleaning products

15

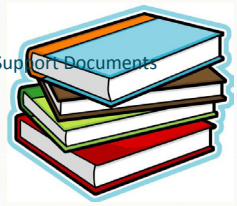
Environmental Services Staff

- Create "buy in" and ownership
- Member of the Sterile compounding team
- Work collaboratively to come to a common understanding
- Create documents to help with understanding:
  - Cleaning Checklists
  - ES Staff Preparing to Enter Cleanroom
  - Posters
    - Donning and Doffing PPE
    - Aseptic Hand Washing

16

Consult Best Practice and Regulatory Documents:

- NAPRA Model Standards for Sterile Preparations
- CSHP Compounding Guidelines
- USP Chapters 797 & 800
- ORNAC Standards
- Environmental Services Practice Support Documents



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Start Using the Proper Terms

Cleaning

- Removes organic, inorganic materials and visible soil; first step
- Example: Germicidal Detergent

Disinfecting

- Destroys microorganisms; to kill bacteria, fungi and viroses
- Example: Sterile 70% Isopropyl Alcohol

Decontamination

- Inactivate, Neutralize or Remove Hazardous Drug Residue
- Many materials including alcohol, water, peroxide or sodium hypochlorite

Deactivation

- Render compound inert or inactive
- Environmental Protection Agency (EPA) registered oxidizers – peroxide formulations, sodium hypochlorite.

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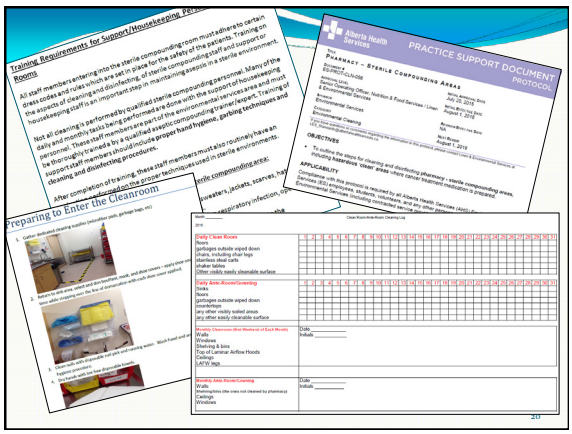
Our Steps Towards Best Cleaning Practices:

1. Consulted USP <797>, ORNAC, and other standards
2. Consulted IPC for further help with detergents and disinfectants
3. Introduced Germicidal Detergents and the use of Sterile 70% Isopropyl Alcohol in our cleanrooms/hoods
4. Introduced Cleaning Checklists and Schedules
5. Met with ES personnel and management across the province – best practice in our cleanrooms
6. Trained our ES staff for hand hygiene and garbing PPE
7. Worked with ES practice leads to develop a practice document
8. Moving forward → just introducing a weekly sporicidal agent to our hood and room cleaning (Pharmacy staff)

10



20

Questions

Jody.read@ ahs.ca

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Refreshment Break amongst the Exhibits and Posters

15:25-16:05 *(Exhibit and Poster Hall, Great Room A-B, 3rd Level)*

Hot Topic Cluster Discussions

16:05-16:50 *(Great Room C, 3rd Level, Strategy Rooms 2/3/7, 5th Level)*

This session is open to those who signed up for the Cluster Discussions during the online registration process. Should you not have signed up for any of these discussions during registration, please see the facilitator of the discussion you would like to attend at 16:00 to find out if space is available.

Participants will have the opportunity to discuss two of the 11 available topics, each led by a different facilitator. Read below for details on the topics and facilitators for this session.

Topics	Facilitator(s)	Room
1 – Counselling Patients on Natural Health Products: A Minimal Approach	Mario de Lemos	Great Room C, 3rd Level
2 – Counselling in the Pediatric Oncology Setting: Can Motivational Interviewing Help?	Jennifer Jupp	Great Room C, 3rd Level
3 – Patient Counselling Strategies in a Smoking Cessation Program for Cancer Patients	Alia Thawer	Great Room C, 3rd Level
4 – Counselling Strategies for Patient Engagement	Jamie Kellar	Great Room C, 3rd Level
5 – Breaking Down Barriers to Inter-Professional Communication in the Oncology Setting	Mark Pasetka	Great Room C, 3rd Level
6 – New Technologies to Improve Patient Counselling and Adherence	Melanie Cormier	Strategy Room 7, 5th Level
7 – Pharmaco-innovation: SMS Messaging and Alternate Ways of Communicating with Patients	Chris Ralph	Strategy Room 7, 5th Level
8 – Dermatologic Toxicities of Anti-Cancer Agents	Scott Edwards	Strategy Room 3, 5th Level

Topics	Facilitator(s)	Room
9 – Management of Toxicities from Newer GU Therapies	Lori Sax	Strategy Room 3, 5th Level
10 – Automation and Beyond – The RIVA Experience	Lori Emond Mihir Patel	Strategy Room 2, 5th Level
11 – Technician Professional Roles and Responsibilities Post Regulation	Kelly-Ann Wakeford	Strategy Room 2, 5th Level

1 - Counselling Patients on Natural Health Products: A Minimal Approach

Mario de Lemos, *BC Cancer Agency, Vancouver, BC*

***Mario de Lemos**, BSc(Pharm), MSc(Clin Pharm), PharmD, MSc(Oncol), is the provincial drug information coordinator at the BC Cancer Agency and a clinical associate professor of pharmacy at the University of British Columbia.*

Mario has practised in the community and hospital settings, including the Ottawa Hospital and the Vancouver General Hospital. He was an expert review committee member of the pan-Canadian Oncology Drug Review in 2011-2015.

His area of interest is population-based health services research. He has led various BC Cancer Agency pharmacy projects which were presented at ASCO and recognized with the CSHP national awards.

About 60% of cancer patients may use natural health products during their cancer treatment. This session will share some guiding principles for more efficient and fruitful counselling.

2 - Counselling in the Pediatric Oncology Setting: Can Motivational Interviewing Help?

Jennifer Jupp, *Alberta Health Services, Calgary, AB*

***Jennifer Jupp** graduated from the University of Alberta in 2000. Since then, she has worked as a clinical pharmacist within the Alberta Blood and Marrow Transplant Program in Calgary, Alberta. In 2007, Jennifer received her Board Certification in Oncology Pharmacy. Currently, Jennifer is the Clinical Practice Leader for the Hematology, Oncology and Blood and Marrow Transplant Program within Alberta Health Services. She maintains a clinical practice with BMT patients at the Alberta Children's Hospital and has a keen interest in clinical research, integrating technology into clinical practice and improving adherence in pediatric oncology patients. Jennifer is the past-president for the Canadian Association for Pharmacy in Oncology (CAPhO).*

Motivational interviewing (MI) has been used with some success for medication management of other pediatric settings, such as obesity and diabetes. In this discussion, we will explore whether we can apply MI techniques to increase engagement and adherence to medication management in our pediatric oncology patients.

3 - Patient Counselling Strategies in a Smoking Cessation Program for Cancer Patients

Alia Thawer, *Odette Cancer Centre, Sunnybrook Health Sciences Centre, Toronto, ON*

***Alia Thawer** is the Oral Anticancer Medications (OACMs) pharmacist at the Odette Cancer Centre, Sunnybrook Health Sciences Centre. She also represents the Odette Oncology Pharmacy on the Sunnybrook Smoking Cessation Steering Committee. This is an interprofessional team to help patients with smoking cessation, using the cancer diagnosis or treatment as a teachable moment. This is a centre wide initiative, with an end of goal of offering a smoking cessation intervention to all patients interested in quitting smoking in an effort to optimize treatment outcomes.*

This session will focus on best practice sharing for strategies in facilitating and measuring smoking cessation rates in cancer patients. We will share barriers, successes and general experiences in this area in the hopes of going back to our centres with a broadened perspective on the issue.

4 - Counselling Strategies for Patient Engagement

Jamie Kellar, *University of Toronto, Toronto, ON*

***Jamie Kellar** is an Assistant Professor – Teaching Stream at the Leslie Dan Faculty of Pharmacy, University of Toronto and a part-time pharmacist at the Centre for Addiction and Mental Health.*

Jamie has a bachelor of science in human kinetics from the University of Guelph, a bachelor of science in pharmacy and a doctor pharmacy from the University of Toronto and she is currently a PhD candidate in the field of health professions education at Maastricht University in the Netherlands.

Jamie has a clinical background in the area of mental health and addictions and currently teaches courses in this area. She is also involved in teaching medication therapy management labs and has worked with colleagues from CAMH to increase the motivational interviewing components. Jamie's practice area has given her significant experience in engaging patients with serious mental illness in their treatment plans.

This hot topic discussion will focus on counselling strategies to engage patients. It will include conversations on how to build motivational interviewing techniques into routine clinical care.

5 - Breaking Down Barriers to Inter-Professional Communication in the Oncology Setting

Mark Pasetka, *Sunnybrook Health Sciences Centre, Toronto, ON*

***Mark Pasetka** is the clinical coordinator for clinical pharmacy at the Odette Cancer Centre at Sunnybrook Health Sciences Centre. His practice focuses on supportive care, education and practice improvement. Mark is also the President-Elect/President of the Canadian Association of Pharmacy in Oncology.*

The intention of this session is to generate strategies to help foster interprofessional collaboration and multidisciplinary care.

6 - New Technologies to Improve Patient Counselling and Adherence

Melanie Cormier, *Princess Margaret Cancer Centre, Toronto, ON*

***Melanie Cormier** is the co-founder of FocusONCare, an innovative technology-based start-up company that is working to develop a mobile tool to help patients manage their experience with chemotherapy treatment and facilitate communication with their oncology team. A graduate of the University of Waterloo's School of Pharmacy program, Melanie recently completed her residency training at Sunnybrook Health Sciences Centre. She is currently practicing as a clinical pharmacist in Malignant Hematology at the Princess Margaret Cancer Centre in Toronto.*

Discuss the ways in which existing or pipeline technologies can assist health care providers with patient counseling, improve the patient experience, and facilitate patient adherence. Share ways in which you have used technologies in your practice and discuss some of the successes and barriers to its use.

7 - Pharmaco-innovation: SMS Messaging and Alternate Ways of Communicating with Patients

Chris Ralph, *Tom Baker Cancer Centre, Calgary, AB*

***Chris Ralph** is a graduate of Memorial University of Newfoundland's School of Pharmacy. He is a clinical pharmacist with advanced prescribing authority (APA) in the Complex Cancer Pain and Symptom Management Service at the Tom Baker Cancer Centre in Calgary. He is a guest lecturer with MUN School of Pharmacy. Chris has a keen interest in the integration of technology into clinical practice, as well as the intersection of healthcare with social media. In his spare time, you're likely to find Chris: in the Rocky Mountains biking, hiking or skiing; at the rink working on his latest sportswriting project; playing guitar; or just keeping up with technology.*

The digital age of medicine and pharmacy is upon us. Smartphones, mobile devices, apps, wearable technologies and even social media are becoming ubiquitous in the healthcare setting amongst patients and providers alike. Our roundtable discussion will discuss trends in alternate ways of patient-provider communication, highlighting SMS messaging. All are welcome as we foster discussion and exchange of ideas on how to utilize optimally and how these trends might impact oncology pharmacy practitioners in patient care and patient engagement.

8 - Dermatologic Toxicities of Anti-Cancer Agents

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

***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 completed a Master's degree in Oncology from Newcastle University in 2015.*

Learning Objectives:

- Describe the common dermatological toxicities associated with targeted therapies;
- Discuss the common principles of management of dermatologic toxicities; and
- Review effective prophylactic treatment strategies for dermatologic toxicities.

9 - Management of Toxicities from Newer GU Therapies

Lori Sax, *London Health Sciences Centre, London, ON*

***Lori Sax** graduated from the University of Toronto with a Bachelor of Science in Pharmacy in 1992. She then completed a hospital pharmacy Residency at Victoria Hospital in London, Ontario. She has worked at the London Regional Cancer Program for more than 20 years in an ambulatory care setting. She is currently a member of the GU and Melanoma multi-disciplinary teams at the LRCP.*

We will discuss management of toxicities from new oral therapies in GU cancers from a pharmacist's perspective.

10 - Automation and Beyond – The RIVA Experience

Lori Emond, *CancerCare Manitoba, Winnipeg, MB*
Mihir Patel, *Humber River Hospital, Toronto, ON*

Lori Emond *has worked in a Sterile Room for most of her 27 year career. In a 0.5 position in pharmacy, she continues to be responsible for training new staff in sterile technique, although she is unable to compound herself due to repetitive strain injuries. She has become the current staff lead in building the RIVA program and ramping up production. She works 0.5 with the Community Oncology Program as a Community Liaison Pharmacy Assistant, providing support and training for staff in our rural cancer treatment centers.*

Mihir Patel *is an oncology pharmacist at Humber River Hospital. Mihir was the lead in RIVA implementation and optimizing automation in the Oncology Pharmacy at Humber River Hospital. In addition to setting up RIVA, he is continually involved in streamlining the processes in the Oncology Pharmacy to meet USP 797 standards and enhance patient and staff safety.*

Mihir previously worked at the Muskoka Algonquin Healthcare and was involved in the implementation of a BPMH technician in the emergency department. Mihir also spearheaded the auditing of medication reconciliation by inpatient pharmacists to improve patient safety upon admission and discharge.

The discussion will be focused on using automation to prepare hazardous and non-hazardous medications in Oncology Pharmacy and the impact on pharmacy workflow.

11 - Technician Professional Roles and Responsibilities Post Regulation

Kelly-Ann Wakeford, *Juravinski Cancer Centre, Hamilton, ON*

Kelly-Ann *Wakeford is the Senior Pharmacy Technician at the Juravinski Cancer Centre in Hamilton Ontario. In this role, one of her duties includes training and certifying technicians in chemotherapy preparation and checking. She is a licensed technician with the Ontario College of Pharmacists. Kelly-Ann has been practicing as a technician for over 25 years plus is a busy wife and mother of two teenage children. Her passion is training for the Iron Girl Triathlon which includes cycling, swimming and running. She is also a certified cycling instructor and loves to motivate participants to be the best that they can be!*

The discussion will include understanding your professional responsibilities as a regulated technician. We will talk about job duties and whether they have changed. We will brainstorm about best practice ideas.

Dinner Event – Dine and Dance on the Falls

18:30-22:30 *(Elements on the Falls Restaurant, 6650 Niagara Parkway)*

Dine and dance on the Falls. Indulge in the culinary delights of Niagara, celebrate the achievements of your colleagues and CAPhO's 20th anniversary and dance the night away. The CAPhO 2016 Dinner/Dance and Awards Event, will take place on Saturday, April 16 from 18:30 to 22:30 at Elements on the Falls, located literally on top of the Falls. Enjoy Niagara and all it is famous for – the region's wines and food, the music of outstanding local musicians Sandy Vine and The Midnights, and last but not least the majestic falls.

The reception, during which you have the opportunity to taste wine from different Niagara Region wineries, begins at 18:30 followed by dinner, awards and dance.

Participation is included in your registration fee (with the exception of daily registrants and sponsors). Guest tickets can be purchased at $79 per person at the Registration Desk (based on availability).

Walking Directions (15 to 20 minutes):

To get to Elements on the Falls, walk right as you exit the Conference hotel on to Falls Ave. Turn left at the traffic light on to Clifton Hill, and when you reach the Hornblower Niagara Cruises building go right and follow the promenade along the River towards the Falls. Walk towards the Falls until you reach Table Rock Centre. Enter the building through the doors located closest to the Falls (GRAND HALL entrance) where you will see an escalator leading up to the Elements on the Falls Restaurant.

SATURDAY

Satellite Symposium - Merck

Immune Checkpoint Inhibition: PD-1 Inhibitors Translating Knowledge into Better Patient Care

Guest: Scott Edwards, *Dr. H. Bliss Murphy Cancer Center, St. John's, NL*
Host: Sean Hopkins, *Royal Victoria Health Centre, Barrie, ON*

07:00-08:30 *(Great Room A, 3rd Level)*

Learning Objectives:

- Summarize the practice changing evidence affecting the treatment of patients with metastatic melanoma in recent months;
- Discuss the recommendations for holding, restarting, or discontinuing PD-1 inhibitors depending on the severity of the immune-related side effect; and
- Articulate how to recognize and treat immune-related side effects associated with PD-1 inhibitors.

CAPhO Town Hall Breakfast Meeting

CAPhO Executive

08:30-09:15 *(Great Room C, 3rd Level)*

Influence and contribute to the growth and development of your association by discussing what matters the most with the CAPhO Executive Committee and fellow members. A light breakfast will be offered during this session.

Oral Sessions: Award Winning Posters

Chair: Coleen Schroeder, *Awards Committee Chair, McGill University Health Center, Montreal, QC*

09:15-09:45 *(Great Room C, 3rd Level)*

CAPhO Poster Awards will be presented for the best posters in Research, Pharmacy Practice and Administration. Award recipients will make a short presentation summarizing the subject of their poster.

Plenary

Checkpoint Inhibitors: The New Oncology Blockbusters

Tom McFarlane, *University of Waterloo School of Pharmacy, Kitchener, ON*

09:45-10:30 *(Great Room C, 3rd Level)*

Dr. Tom McFarlane *received his Bachelor of Science in Pharmacy degree from the University of Toronto in 1996 and his Doctor of Pharmacy degree from Idaho State University in 2011. He is currently a Clinical Lecturer and researcher at the University of Waterloo School of Pharmacy in Kitchener, Ontario, where he created, coordinates, and teaches the oncology portion of the curriculum in the Doctor of Pharmacy program and is a member of the School of Pharmacy's Curriculum Assessment Committee.*

It has been demonstrated that immunologic checkpoints are upregulated in various forms of cancers. To this end,

drugs targeting these checkpoints, specifically CTLA-4 and PD-1 inhibitors, are rapidly gaining ground as the newest class of blockbuster oncolytic agents. This presentation will introduce these agents, provide some context to their place in therapy based on the latest clinical trial data, and outline the risks to patients and the role of pharmacists in optimizing patient therapy based on these risks.

Learning Objectives:

- Introduction of checkpoint inhibition as a concept;
- Outline of changes in response criteria necessitated by checkpoint inhibitors;
- Review of latest clinical trials data and indications for checkpoint inhibitors; and
- Discussion of the pharmacist's role in managing patients on checkpoint inhibitors, including adverse effect management and monitoring.

Refreshment Break

10:30-10:45 *(Foyer of Great Room C, 3rd Level)*

Plenary

Update on Chronic Lymphocytic Leukemia (CLL)

Mark Brown, *Hamilton Health Sciences, Henderson Hospital, Hamilton, ON*

10:45-11:30 *(Great Room C, 3rd Level)*

***Mark Brown** headed south to work in prostate cancer research at the University of Notre Dame in Indiana after receiving his Bachelor's in biochemistry at Queen's University in 1999. Feeling the need to be closer to patients and their care, he went on to complete his PharmD at Purdue University in 2007. After graduation he pursued 2 years of pharmacy residency training in Hematology-Oncology at the University of North Carolina in Chapel Hill. Looking to be closer to home, he took up the role of a hematology and bone marrow transplant pharmacist at McMaster University's Hamilton Health Sciences. Mark has a passion for teaching and strong interests in infectious diseases and an interdisciplinary approach to caring for patients.*

Chronic lymphocytic leukemia (CLL) remains the most common adult leukemia and accounts for 7% of cases of non-Hodgkin's lymphoma. The median age of diagnosis is between 67 and 72 years old and watchful waiting remains an option for some patients. Invariably, progressively symptomatic patients are treated from an arsenal of drugs that has migrated from alkylating agents to purine-based therapy, and most recently targeted drugs used alone or in combination. An understanding of a patient's baseline performance and mutational status has become even more critical to choosing options that successfully balance efficacy with tolerability.

Learning Objectives:

- Identify the treatment options for fitter and less fit patients in the context of modern targeted therapies;
- Cite how mutational status affects treatment choices;
- Become familiar with select trial data used to support algorithms endorsed by leading guideline groups; and
- Review important side effects of the newer agents used to treat CLL.

Panel

Practical Ways to Implement a Pharmacist-Led Toxicity Management Program

Panellists: Linda Elnazir, *Walker Family Cancer Centre of the Niagara Health System, St. Catharines, ON*
Gerry Mills, *Annapolis Valley District Health Authority, Kentville, NS*
Lori Sax, *London Health Sciences Centre, London, ON*
Moderator: Daniela Gallo-Hershberg, *North York General Hospital, Toronto, ON*

11:30-12:15 *(Great Room C, 3rd Level)*

Dr. Linda Elnazir *is an Oncology Pharmacist at the Walker Family Cancer Centre of the Niagara Health System. She obtained her Doctor of Pharmacy degree from The State University of New York at Buffalo. She then completed a 2-year pharmacotherapy residency at Cleveland Clinic in Cleveland, Ohio. In 2009, she obtained board certification in pharmacotherapy. She has dedicated her career to the practice of Oncology having worked in various cancer centres in the US and Canada. Her specific interest area within the field of Oncology is Malignant Hematology but currently practices in both solids and liquids within her current position at Walker Family Cancer Centre.*

Gerry Mills *was attending Memorial University in St. John's, NL working towards his BSc in physics before deciding to study Pharmacy in 1982. After graduating Gerry worked as a community pharmacist in St. John's, before switching to hospital pharmacy in 1989.*

Gerry has been a clinical oncology pharmacist for the past 10 years at the Valley Regional Hospital in Kentville N.S. Gerry splits his time between the Pharmacy Department and the Chemotherapy/Oncology clinic performing pharmacy assessments, medication reviews, and patient and staff education and follows up toxicity assessment for intravenous and oral chemotherapy patients in the outpatient setting.

Gerry's main interest in oncology include direct patient counseling and providing current evidence informed information to ensure heath care team members are best able to manage and prevent chemotherapy related toxicities.

Gerry also has a personal interest in furthering his education in molecular diagnostics of cancer and the effect this has on treatment selection, particularly in regards to the use of targeted therapies.

Lori Sax *graduated from the University of Toronto with a Bachelor of Science in Pharmacy in 1992. She then completed a hospital pharmacy Residency at Victoria Hospital in London, Ontario. She has worked at the London Regional Cancer Program for more than 20 years in an ambulatory care setting. She is currently a member of the GU and Melanoma multi-disciplinary teams at the LRCP.*

This session will include a panel discussion to assist oncology pharmacists in implementing and/or sustaining a pharmacist-led toxicity management program regardless of their program size or staffing level.

Learning Objectives:

- Compare work flow processes of pharmacist-led toxicity management programs from three different practice sites;
- Describe the challenges/barriers in implementing a pharmacist-led toxicity management program; and
- Discuss ways to sustain a pharmacist-led toxicity management program.

Closing Remarks

Mark Pasetka, *CAPhO President, Sunnybrook Health Sciences Centre, Toronto, ON*
Biljana Spirovski, *Conference Chair, Humber River Hospital, Toronto, ON*

12:15-12:25 *(Great Room C, 3rd Level)*

Satellite Symposium – Astellas

Improving Patient Health: Optimizing HCP to HCP Communication

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

12:30-14:00 *(Strategy Room 3, 5th Level)*

Learning Objectives:

- Compare the communication needs of the oncology pharmacist to the needs of the specialist; and
- Consider strategies to foster efficient relationships within the multidisciplinary patient care team.

SUNDAY

AN **INTERACTIVE AFTERNOON SYMPOSIUM** NOT TO BE MISSED

KEEPING A BREAST in BREAST Cancer

Practical Implications of New Data for Pharmacists

Friday, April 15th, 2016
3:45pm - 5:15pm
Sheraton on the Falls Hotel
Niagara Falls, Ontario
Great Room C (3rd Level)
(Refreshments will be served)

With a wide variety of treatment options and ever-expanding evidence base, it can be difficult for busy pharmacists to **stay up to date on breast cancer therapy.**

In this interactive symposium, experts will review the **evolving pharmaco-therapeutic environment,** discuss **how to interpret clinical data,** and demonstrate its **implications for daily pharmacy practice.**

FACULTY

George Dranitsaris
BPharm, MS, PhD, FCSHP
Biostatistician and Oncology Research Scientist
Toronto, ON

Scott Edwards
BSc(Pharm), PharmD
Clinical Assistant Professor of Oncology
Dr. H. Bliss Murphy Cancer Centre
Memorial University
St. John's, NL

NOVARTIS ONCOLOGY

CAPhO Canadian Association of Pharmacy in Oncology

WE'RE NOT JUST CELEBRATING THE LAST CENTURY, WE'RE CELEBRATING THE NEXT.

Globally, we have been around for 100 years, and 20 years in Canada. We take pride in the progress we've made in mental health and oncology. We're now focusing on the next generation of healthcare advancements, because, for us, it's all about helping Canadians lead better lives. At Lundbeck, we believe everyone deserves happier birthdays.

Lundbeck PROGRESS IN MIND

Poster Abstracts

Research

Text Messages to Educate, Engage, and Motivate (Teem Trial): Patient Perceptions of Text Messaging to Supplement Patient Counselling and Improve Medication Adherence

Introduction: Over half of breast cancer patients take endocrine therapy (ET) as part of their anticancer treatment, but the majority stop treatment prematurely. As healthcare institutions do not have the human resources to follow all breast cancer patients closely and encourage long-term adherence, alternative means of engagement, such as text messaging, need to be explored. Text messaging interventions (TMIs) have been successfully used in other therapeutic areas to improve medication adherence.

Methods: This study is stage 1 of a 2-stage study to design and evaluate a TMI aimed at improving patient adherence to ET. We developed the TMI using the Intervention Mapping Framework. Breast cancer patients receiving ET at Sunnybrook Odette Cancer Centre will be invited to test the TMI and provide their feedback. Semi-structured interviews will be conducted at baseline and at 6 weeks.

Results: Data collection and analysis is ongoing. We hypothesize that personalized TMIs will improve patient's knowledge about their medications and increase their motivation to continue therapy. Interviews will be recorded, transcribed, and analyzed using Thorne's interpretive description approach.

Conclusion: Improved patient engagement and knowledge about medications will help patients make a decision to continue ET, thus reducing their risk of breast cancer recurrence and mortality.

CONTACT AUTHOR: Soha Ahrari, *Sunnybrook Odette Cancer Centre, Toronto, ON*

CO-AUTHOR: Carlo De Angelis, *Sunnybrook Odette Cancer Centre, Toronto, ON*

Evaluation of The Oncotype Dx Test Review in Breast Cancer Patients at the BC Cancer Agency (BCCA)

Objective: The BC Cancer Agency (BCCA) began funding the Oncotype DX genomic assay to guide adjuvant breast cancer patients in April 2014. Results of this genomic assay (or Recurrence Scores–RS) assist in deciding between hormonal therapy (low RS) or chemotherapy (high RS). Pharmacy technicians were assigned to review requests and assessed eligibility criteria for this test. Our objectives are to assess the clinical role of pharmacy technicians in this review process and to determine the impact of RS on given treatments.

Design: Retrospective, multi-centre study to evaluate the Oncotype DX test review process from June 2014–May 2015. The main outcomes are technicians' error rate and the concordance rate between high/low RS and the given treatment.

Results: 440 requests for Oncotype DX test were received during the study period. 90.8% of cases were approved and 9.2% were denied. Pharmacy technicians reviewed requests in 13.8 minutes on average, with an error rate of 1.1%. A low and high RS were found in 46% and 17% of requests respectively. The concordance rate between RS and the given treatment was 94.4%.

Conclusion: Pharmacy technicians accurately reviewed Oncotype DX test requests with a low error rate. Patients were treated in accordance to RS-based recommendations.

CONTACT AUTHOR: Vian Cheng, *BC Cancer Agency, Vancouver, BC*

CO-AUTHORS: Mario de Lemos, *BC Cancer Agency, Vancouver, BC*

K. Schaff, *BC Cancer Agency, Vancouver, BC*

Adeline Markarian, *BC Cancer Agency, Vancouver, BC*

Evaluation of the Incidence of Palmar-Plantar Erythrodysthesia Following the Administration of Docetaxel Adjuvant Therapy for Breast Cancer

Background: DOCETAXEL is a frequently used chemotherapy agent for adjuvant breast cancer (BC) therapy. Adverse cutaneous drug reaction (ACDR) of all grades occurs in 50% of the patient's vs 5% for grade III palmar-plantar erythrodysthesia (PPE) (monograph). According to our observations, PPE incidence seems to vary according to the route of administration of dexamethasone.

Objective: Compare the incidence of PPE grade II-III on patients who received a premedication of dexamethasone orally vs intravenously during the administration of docetaxel, a chemotherapy used in adjuvant therapy for BC.

Design: Descriptive, transversal, retrospective study, including 274 patients who received docetaxel in adjuvant therapy for BC at the Breast Cancer Center Deschênes-Fabia between April 1st 2012 and March 31st 2014.

Results: After cycle 1, 18% of the patients who received dexamethasone intravenously presented a PPE vs 15% of the patients who received dexamethasone orally (p=0,46). After cycle 2, 20% of the patients who received dexamethasone intravenously presented a PPE vs 7% of the patients who received dexamethasone orally (p=0,0033).

Conclusion: PPE seems to be more frequent in cycle 2 docetaxel chemotherapy treatment when dexamethasone is administered intravenously.

CONTACT AUTHOR: Marie-Julie Roy, *CHU de Quebec-Université Laval, Quebec, QC*

CO-AUTHORS: V. Blouin, *CHU de Quebec-Université Laval, Quebec, QC*

A. Dionne, *CHU de Quebec-Université Laval, Quebec, QC*

Incidence of Hypomagnesemia in Colorectal, Head & Neck, and Gynecological Cancer Patients Receiving Endothelial Growth Factor Receptor (EGFR) Inhibitor or Platinum Agents: A Retrospective Analysis

Objective: The objective of this study was to determine the incidence and severity of hypomagnesemia in patients receiving panitumumab, cetuximab, cisplatin, carboplatin or oxaliplatin.

Design: Patients' receiving the aforementioned drugs either as combination or single-agent therapy were identified through our CPOE system (OPIS2005) and cycle bloodwork was extracted from our electronic health records system (Sunnycare).

Results: A total of 316 head and neck, 197 colorectal, and 58 gynecological cancer patients were included in the analysis. Only 84% of patients had baseline serum magnesium value reported. Grades 1 and 2 hypomagnesemia occurred in 109 (34%) head and neck cancer, 84 (42%) colorectal and 20 (34%) gynecological patients. Grades 3 and 4 hypomagnesemia occurred in only seven (3.5%) colorectal cancer patients. Only 29 (71%) patients that developed grade 2 or higher hypomagnesemia were supplemented with IV magnesium sulfate. Ten percent of patients were magnesium deficient before the start of their first cycle of treatment. Overall, 351 patients (61%) maintained normal serum magnesium levels throughout treatment. Panitumumab, high-dose cisplatin, and cetuximab were most likely to lead to hypomagnesemia.

Conclusion: Serum magnesium is an important test which should be a part of the standard blood workup for cancer patients being treated with an EGFR inhibitor or platinum agent.

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Development of Growth Colony Stimulating Factor (GCSF) Recommendations for Prevention of Febrile Neutropenia Using a Combination of Evidence and Expertise

Objective: Multiple guidelines and recommendations exist for the use of GCSF in the primary prevention of febrile neutropenia. Cancer Care Ontario consolidated major international and Canadian guidelines and reviewed evidence to develop evidence-informed, practical recommendations for clinicians pertaining to GCSF, antimicrobials, antifungals and antivirals for the prevention of FN. Additionally, chemotherapy regimens with curative intent were assigned an FN risk of high, moderate or low to facilitate knowledge transfer.

Design: A group of subject matter experts across Canada consisting of oncologists, pharmacists and a nurse formed the Working Group. Relevant guidelines from other jurisdictions were examined and a literature search was done to incorporate the latest evidence. Chemotherapy regimens with curative intent in the Cancer Care Ontario Drug Formulary were reviewed. External disease site group experts were consulted, and final recommendations were reached by consensus among the Working Group members.

Results: Recommendations for the use of GCSF to prevent FN in patients receiving chemotherapy were developed. Chemotherapy regimens with curative intent were assigned an appropriate FN risk.

Conclusion: Using a combination of an evidence-based approach and clinical expert consensus, recommendations were developed for the appropriate use of GCSF, antimicrobials, antifungals and antivirals in patients receiving chemotherapy with curative intent.

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Evaluation of the Sterility of Single-Use Vials Undergoing Multiple Access Following Application of a Closed System Transfer Device

Background: Closed system transfer devices (CSTD) are designed for safe handling of hazardous drugs from preparation to administration. According to NIOSH, these devices are airtight and leak-proof. While these devices protect staff, as a closed system they could also minimize microbial contamination.

Objective: To test whether attaching a CSTD (Equashield®) to single-use vials can minimize microbial contamination and extend the "use-by" date following multiple withdrawals under extreme-use-conditions.

Methods: An Equashield® vial adapter was attached to three 20 mL vials (A, B, C) containing sterile TSB growth medium and placed in each of 6 biological safety cabinets weekly for 16 weeks. Vial A (control) had no medium removed during the week. One mL of medium was removed once daily x5 days from vial B, and twice daily x5 days from vial C. At day 5, vials were collected, incubated at 37oC for 14 days and inspected visually every 2 days for microbial growth. As a positive control, TSB vials were inoculated with less than 102 of S. epidermidis ATC 12228. As a negative control, an unopened vial of TSB was incubated for the duration of the study.

Results: All positive control vials demonstrated growth within 48 hours. All negative control vials showed no growth throughout the study. During the 16-week study all accessed vials remained sterile following storage at room temperature for 5 days and subsequent incubation for 14 days. None of the 192 vials accessed 1440 times or the 96 vials that had the CSTD attached but had no broth removed demonstrated contamination. The 95% confidence interval of the contamination rate is 0.000 to 0.035%.

Conclusions: Attachment of a CSTD adapter to single-use vials within an ISO-5 environment has the ability to maintain sterility following multiple withdrawals during 5 days and stored in worse than ISO-5 conditions.

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Stability of 1.0 and 2.5 mg/mL Bortezomib Solution In Vials and Syringes Following Reconstitution with 0.9% Sodium Chloride at 40C and Room Temperature (230C)

Background: Previous publications have demonstrated the stability of 1.0mg/mL and 2.5mg/mL of bortezomib for 42 days and 21 days respectively. The introduction of a generic version of bortezomib raised questions of the stability of the generic formulation and the validity of extending stability from one brand to another.

Objective: To evaluate the stability of bortezomib 3.5 mg vials reconstituted with 3.5 or 1.4 mL of 0.9% sodium chloride (NS) during storage over 42 days at room temperature and at 40C in syringes and manufacturer vials.

Methods: On study day 0, 2.5mg/mL and 1.0mg/mL concentrations of the TEVA formulation were prepared. 3 units of each container were stored at room temperature and 3 were stored in the refrigerator. Concentration and physical inspection were completed on study days 0, 1, 3, 7, 10, 14, 22, 28, 34, and 42. Bortezomib concentrations were determined by a validated stability-indicating liquid chromatographic method with UV detection. The recommended beyond-use-date was determined based on the intersection of the lower limit of the 95% confidence interval of the observed degradation rate and the time to achieve 90% of the initial concentration.

Results: The analytical method separated degradation products from bortezomib such that the concentration was measured specifically, accurately (deviations from known averaged 2.5%) and reproducibly (replicate error was less than 1% (CV(%)). During the study period all solutions retained more than 95% of the initial concentration in vials and syringes at both temperatures and concentrations. The calculated beyond-use-date exceeded 42 days for all temperatures, concentrations and container combinations.

Conclusions: We conclude that 3.5-mg vials of TEVA bortezomib reconstituted with 3.5 mL or 1.4 mL of NS (concentrations of 1.0 and 2.5mg/mL) are physically and chemically stable for at least 42 days at 40C or room temperature (230C) in both syringes and the original manufacturer's glass vials.

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Pharmacy Practice

Breaking Down the Medication Counselling Session: Patient Experiences with an Alternative Approach to Medication Councelling for Oral Anti-Cancer Therapies

Objective: Cancer treatments are shifting towards oral anti-cancer medications (OACMs). OACMs have complex administration and handling instructions and require patients to understand side effects and self-management concepts. Traditional medication counselling is a one-time occurrence which can be long, complex, and dominated by the healthcare provider. This results in poor patient learning.

Design: The Sunnybrook Breast Cancer Centre in Toronto, Canada has piloted a novel approach to counselling, providing both in-person and telephone counselling while the patient is on therapy. Metastatic breast cancer patients taking OACMs were interviewed and asked to describe their OACM experiences. Interviews were audio-recorded, transcribed, and analyzed using Thorne's interpretive description approach.

Results: Important trends that arose out of the analysis included high feelings of satisfaction with care received and reassurance that important counselling points were reinforced over time. Patients that had experienced both traditional counselling and the alternative approach compared both experiences and described a reduction in anxiety and increased confidence in their ability to manage their OACMs with the alternative counseling approach.

Conclusion: This poster outlines strategies to implement a novel medication counselling approach. This approach will be useful to patients receiving OACMs. Further research is needed to ensure generalizability to other patient populations.

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Descriptive Analysis of Bortezomib use in the Treatment of Multiple Myeloma in Four Adult University Hospitals in Quebec, Canada

Background: Bortezomib (Velcade®) is widely used in the treatment of multiple myeloma and in various other indications.

Objectives: Describe the use of bortezomib in our hospitals.

Design: We identified all patients who received bortezomib between June 1st 2012 and May 31st 2013 using pharmacy databases. Files and records of every patient were reviewed.

Results: 128 patients received bortezomib in first line myeloma, 73 for relapsed/refractory disease and 31 for other indications. The main regimen used among the 45 patients eligible for transplantation was VelDex. Excluding patients still on treatment, median duration was four cycles. Twenty-eight patients have undergone transplantation and two progressed.

Of the 73 patients treated for relapsed/refractory myeloma, 43.8% discontinued therapy, 19 due to disease progression, eight for side effects and five for other reasons. Close to half of patients received CyBorD and initial bortezomib dosages ranged from 1.0 to 1.6 mg/m2. The number of cycles for patients who completed treatment, as well as the median exposure time (57 to 223 days) were highly variable in this population.

Conclusions: Treatment algorithms should be developed to optimize bortezomib use, particularly in the relapsed/refractory setting. Recommendations should be made regarding the use of bortezomib in off-label indications (amyloidosis, lymphoplasmacytic lymphoma).

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Descriptive Analysis of Azacitidine use in Four Adult University Teaching Hospitals in Quebec, Canada

Background: Azacitidine (5-AZA; Vidaza®) is used in the treatment of myelodysplastic syndrome (MDS) and acute myeloid leukemia (AML).

Objectives: Describe and review the use of 5-AZA in our hospitals.

Design: We identified all patients who received 5-AZA between January 1st 2010 and May 31st 2013 using pharmacy databases. Files and records of every patient were reviewed.

Results: A total of 77 patients received 5-AZA, 56 for the treatment of MDS, 15 for AML and 6 for other indications. Excluding patients still on treatment, 32 received 6 cycles or more. MDS patients (76.7 % intermediate-2 or higher IPSS score) received a mean of 8.0 cycles (median = 6) and overall benefit rate (OBR) was 48.2 %. Median overall survival (OS) was 17.8 months and median time to progression (TTP) was 9.7 months. AML patients received a mean of 6.6 cycles (median = 5) and OBR was 26.7 %. Median OS was 12.2 months and median TTP was 6.5 months.

Conclusions: 5-AZA had a limited effect in our real-life population (OBR of 44.2 % and mean exposition of 7.9 cycles (8.1 months)). Considering its high cost, we should cautiously choose patients to whom this treatment is offered and periodically re-evaluate its use.

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Oral Cancer Therapy Supported by Decentralized Pharmacy Services: A Look at Patients Receiving Pazopanib at the Saskatoon Cancer Centre

Objective: Describe the quantity and types of documented pharmacy professional services to patients receiving pazopanib over a 15-month period before and after assignment of a pharmacist focused on oral cancer therapies to the Medical Oncology clinic.

Methods: Pharmacy records and electronic charts for patients receiving pazopanib between September 2014 and November 2015 were reviewed. Documented pharmacy services were compared for the periods before and after April 2015 when the pharmacist joined the clinic team.

Results: During the period reviewed, 38 patients were prescribed pazopanib. Eight patients concluded pazopanib treatment before the clinic pharmacist was implemented (group A), twenty patients were currently on therapy (group B) and ten patients started pazopanib after the pharmacist was in place (group C).

Patient education notes were present on 7% of patients pre-implementation and 60% post-implementation. At least one drug interaction was noted for 50, 80, and 90 % of group A, B and C patients, respectively. Notes pertaining to managing adverse reactions were made for 13, 30 and 60% of group A, B and C patients, respectively.

Conclusions: Creation of an oral chemotherapy program resulted in a marked increase in documented pharmacy services provided to patients on pazopanib.

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Marijuana use Among Medical Oncology Patients at the Saskatoon Cancer Centre

Objective: To describe the prevalence of and reasons for medicinal marijuana use in medical oncology patients at the Saskatoon Cancer Centre (SCC). The survey characterizes how patients obtained the product and sources of information regarding marijuana as related to cancer.

Design: A convenience sample of adult patients of SCC was asked to participate in an anonymous 32-item survey regarding past or current experience with marijuana and to indicate their agreement with several statements about marijuana for medical purposes on a Likert-type scale.

Results: Forty-six patients completed the survey. Four patients (9%) were currently using marijuana for treatment of their cancer or cancer-related symptoms with an equal number having used it medicinally in the past. Friends/family were the most cited (7/8) source of recommendation and only 3/8 obtained their product through a Licensed Provider under MMPR or former Marijuana Medical Access Regulations. The majority of patients surveyed held positive attitudes about the safety and utility of marijuana in this setting.

Conclusion: Usage of marijuana for medical purposes at SCC is uncommon despite predominantly positive beliefs about its use. More research including patients with differing types of cancer and from other provinces is needed.

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Utilization of a Closed System Device (PHASEAL™) for the Preparation and Administration of a Cytotoxic Drug for Subcutaneous Use

Objective: To ensure the safety of pharmacy and nursing staff during the preparation and administration of a cytotoxic drug for subcutaneous use.

Design: The London Regional Cancer Program (LRCP) designed a procedure to deliver a subcutaneous dose while maintaining the use of PhaSeal™, a Closed System Transfer Device (CSTD).

Results: In collaboration with nursing, an air sandwich technique was developed, which allowed the Centre to continue to use PhaSeal™ for subcutaneous doses. This method was validated with fluorescene to ensure no expose to pharmacy, nursing and patient's occurred. Once Pharmacy prepared the subcutaneous dose, a PhaSeal™ injector was attached. Nursing applied a subcutaneous needle and created an air sandwich prior to administration.

Conclusion: A technique for safe preparation and administration of a subcutaneous cytotoxic drug was developed at LRCP. This method reduces the risk of cytotoxic contamination.

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Robotic IV Compounding: The Manitoba Experience

Background: Manual intravenous oncology admixture preparation involves multiple steps, and multiple double checks. These processes increase the risk for error as well as repetitive strain injuries to staff. CancerCare Manitoba (CCMB) has installed a RIVA unit (a fully automated IV compounding system) to increase efficiency and enhance safety for patients and staff. However, the electronic health record (EHR) at CCMB is not yet interfaced with RIVA software, so patient-specific doses are not yet possible. A unique approach was required to incorporate RIVA into existing workflow.

Objective: To integrate RIVA into oncology admixture production by batch compounding oncology drugs.

Design:

- Review treatment protocols and gain approval of physicians to dose band common treatments
- Review literature to support extended stability of drugs to be prepared in advance of scheduled treatment
- Implement dose banding into existing EHR
- Determine frequency of use of each band and estimate quantities required
- Compound batches of high-use dose-bands two to three times weekly

Results: Dose banding was successfully implemented in the commonly used treatment regimens by the Gastrointestinal Disease Site Group. Batch compounding of common doses is ideal when drug stability permits.

Conclusion: Robotic compounding of dose-banded oncology drugs can be incorporated into the manual compounding workflow and has the potential to reduce repetitive strain injury and increase efficiency. Increases in efficiency may allow the ability to sustain increased workload without increased human resources.

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Assessment of Barriers to Good Medication Taking Behaviour in Metastatic Prostate Cancer Patients Receiving Oral Anti-Androgen Therapy

Adherence to oral anti-cancer medications (OACMs) is of increasing concern, and characteristics of the metastatic castrate-resistant prostate cancer population (mCRPC) (advanced age, multiple co-morbidities, poly-pharmacy) further complicate this issue.

Objective: The goal of this study was to explore patients' experiences and comfort level with OACMs in light of complex medical histories.

Design: This prospective, exploratory study included men with mCRPC starting treatment with abiraterone or enzalutamide. Baseline questionnaires, medication lists, and semi-structured interviews were completed at the time of medication counseling followed by interviews at 24-48 hours and 1 month.

Results: We evaluated 10 patient responses and identified six key themes: Patients felt confident in medication taking when linked to consistent daily events. Patients recalled side effects and safe handling procedures in general, but were unable to remember specifics or management strategies. Long-term use of patient information documents varied; participants appreciated when important points were physically highlighted. Patient confidence increased when pharmacists individualized instructions. Having a caregiver present was helpful, although patients still found the amount of information overwhelming.

Conclusion: This paper identifies strategies and techniques that optimize patient retention of information and understanding of OACMs. These techniques can be used to increase confidence in and ability to use medications, thus improving medication adherence.

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Promoting Medication Error Prevention Strategies Through Education

Objective: To develop an education program that highlights potential sources of error during various stages of preparation, delivery and administration of cancer therapy, and to recommend error prevention strategies.

Design: The BC Cancer Agency (BCCA) adapts process changes to reduce the risk of errors in response to internal process reviews and literature reports about incidents involving cancer drugs. The process changes affect staff in both BCCA and Communities Oncology Network (CON) hospitals, who work together to ensure BC residents receive their cancer medications close to home. To promote consistency of care between BCCA and CON hospitals, BCCA Pharmacy CON Educators provide education to CON hospital pharmacy staff.

Results: Education about error prevention was developed and delivered to CON hospitals by the Pharmacy CON Educators as a PowerPoint inservice, an error reduction checklist, and a referral to a BCCA Medication Safety online module. The inservice and checklist promoted twelve error prevention strategies based on pharmacy-related ISMP Canada themes.

Conclusion: Education about error prevention is essential for CON staff to understand BCCA process changes and implementation procedures. Pharmacy CON Educators will continue to liaise between BCCA and CON hospitals to ensure safe and consistent cancer medication delivery in BC.

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What's the Cost of USP<797>?

Objective: To analyze residual drug volume data in an automated robotic intravenous system, and determine the cost of USP <797> compliance.

Design: At the regional cancer centre at Royal Victoria Regional Health Centre, 60% of antineoplastic agents are processed using RIVA (Robotic Intravenous Automation) in an aseptic ISO Class 5 environment with laminar airflow. This automated system records quantities of unused agents with accuracy and thoroughness unobtainable from manual dose preparation. We analyzed this data to determine the amount and cost of wastage if USP <797> beyond use dating guidelines were followed.

Results: Data from January to August 2015 from the RIVA unit was analyzed. During this timeframe, a total of 2812 vials from 24 different agents were processed by RIVA. Of all of these vials, 1789 (64%) had either none or less than 1 mL of drug remaining. 70 vials of bortezomib had a planned 0.1-0.2 mL inaccessible volume. 195 vials of cisplatin were put through RIVA and the cost of residual drug totaled $1279, while 155 vials of rituximab had a residual drug cost of $83,265.

Conclusion: Wastage varies considerably across the spectrum of antineoplastic agents. Foregoing USP <797> guidelines for certain drugs can result in significant savings.

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BPMH....Who Do You Appreciate!

QI problem: At the Sunnybrook Odette Cancer Centre (OCC) Pharmacy our baseline Best Possble Medication History (BPMH) completion rate for patients starting a new Oral Anticancer Medication (OACM) was low at 28%, and this was seen as potential for serious medication incidents.

Objective: To increase the BPMH completion rate at the OCC Pharmacy to 100% for all patients starting a new OACM.

Design: To achieve this goal, a BPMH technician was hired and trained in the systematic collection and central documentation of comprehensive medication histories. Frontline pharmacists working at the OCC Pharmacy were interviewed in order to identify common barriers to completing a BPMH during the patient counseling session. The most common barrier identified was lack of time, and therefore we made the BPMH technician available by pager in the pharmacy to complete BPMHs for patients starting a new OACM while their medication was being prepared. We also offered the option to prescribers of OACMs to use our internal referral system to notify us of patients starting a new OACM ahead of time.

Project Impact/Results: In a 5 month period, the BPMH completion rate for patients starting a new OACM increased to 82%.

Conclusion: A higher BPMH completion rate allows for a more thorough interaction check and safer prescribing. Hiring a BPMH technician ensured there was someone dedicated to this important task.

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Administration

Development of Best Practice Recommendations for Systemic Treatment Regimen Development and Maintenance

Objective: Commonly used safeguards in the prescribing of chemotherapy include systemic treatment computerized prescriber order entry (ST CPOE) systems and pre-printed orders (PPOs), as handwritten prescriptions are more prone to error and often do not provide necessary supporting information. However, best practice processes for regimen development and maintenance are not well-described in the literature but are essential for safe delivery of chemotherapy, workflow management and updating regimens as new evidence emerges. The objective of this work was to develop consensus-based recommendations on best practices for the development and maintenance of oncology regimens.

Design: An expert working group of oncology clinicians and administrators was formed. The Working Group reviewed available literature and leveraged their expertise and experience across systems to establish oncology-specific recommendations. These were then circulated to broader stakeholder groups for feedback and acceptability.

Results: Practical, consensus-based best practice recommendations for ST-CPOE and PPO regimen development and maintenance were created. Detailed processes for new regimen development and regimen changes are outlined, focusing on clinical indications and process of review. Also, areas covered include roles/responsibilities, frequency of review, documentation and sign-off.

Conclusion: Careful analysis and application of the expertise of oncology professionals resulted in consensus-based best practice recommendations that will enable the advancement of safe, standardized chemotherapy ordering.

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Pharmacoeconomic Initative to Reduce the Financial Burden on the Ontario Drug Benefits Program (ODB)

Objective: To screen breast cancer patients receiving systemic chemotherapy where prophylactic growth factor support was prescribed for private drug plan funding.

Design: From September 2015 until March 2016, London Regional Cancer Program Pharmacy utilized a screening method in breast cancer patients to facilitate physicians choice between Neulasta and Neupogen. Patients who had private coverage received Neulasta and provincially covered patients received Neupogen. ODBP cost savings were realized for patients where provincial coverage was avoided. Additionally, Home Care costs were saved for reduced visits due to Neulasta administration.

Results: Over a 60 day period, 9 patients screened benefited from Neulasta. Each patient would be completing 6-8 cycles of chemotherapy. Cost avoidance to ODBP per cycle was approximately $2000 of drug therapy and overall $108 000 was saved.

Conclusion: Pharmacy developed a process to screen breast cancer patients starting systemic chemotherapy. 30% of patients were converted to Neulasta in the first 60 days resulting in Provincial drug cost savings of $108 000.

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Integration of Outpatient Pharmacy Specialty Services Within an Ambulatory Myeloma Clinic Setting

Objective: A dedicated oncology pharmacy specialty team was established to support myeloma clinic services within our hospital oncology centre. Six-month program metrics were recorded for myeloma specialty pharmacist and medication reimbursement specialist (MRS) activities.

Design: Pharmacy specialty team roles were defined for 2 myeloma pharmacists, 1 myeloma MRS and 1 pharmacy technician based on multidisciplinary feedback. The majority of patient-facing activities took place during myeloma clinics days, 2 days a week. Alternating non-clinic days, 3 days a week, focused on pre-clinic preparation, post-clinic follow-up and coordination of prescription fulfillment and drug access.

Results: From January 1 to June 30, 2015, 384 pharmacist-patient consultations were conducted in clinic; 187 best possible medication histories were performed; 119 clinical interventions were made and 159 pharmacist counselling sessions were completed for high-risk, teratogenic IMiD drug therapy agents. During this same period, 73 patient assessments were conducted by the MRS and total estimated cost avoided for patients exceeded $1.04 million.

Conclusion: The integration of a dedicated, on-site myeloma specialty pharmacy team, including a medication reimbursement specialist, could support an enhanced patient-centred, multidisciplinary medication management model within a hospital ambulatory setting.

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Impact of Automation on Chemotherapy Preparation Time

Objective: The objective of the study was to assess the impact of automation and optimization of workflow on chemotherapy preparation time.

Methods: The study was designed to randomly select patients before and after moving to a new Humber River Hospital site with automation. To get a variety of patients, subjects were selected from 5 days of the month over 3 months before and after the move. The chemotherapy preparation time was defined as the time patient waited in “Ready for Chemo” status in the Oncology Module of MediTech. “Ready for Chemo” status indicates that patient has been assessed by a physician if required, assessed by a nurse, relevant blood work has been reported, and the patient is in the chair. Average wait times were calculated for before and after moving to the new site with automation and workflow optimization.

Results: The average time a patient was in “Ready for Chemo” before the move was 29.1 minutes (n=194). The average time was reduced to 18.5 minutes (n=176) after the move. Thus, on average, wait time for chemotherapy preparation was reduced by 36%.

Conclusion: Using automation and optimizing workflow has significantly reduced wait time for chemotherapy preparation at Humber River Hospital.

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Utilization of RIVA Robot in Hazardous and Non-Hazardous Drugs Preparation – The Humber River Hospital Data

Objective: The objective of the study was to analyze and assess the use of Robotic IV Admixture (RIVA) robot in preparation of hazardous and non-hazardous drugs.

Methods: The study was designed to gather data from MediTech (MT) module and the RIVA production database. From the MT module, percentage of patient specific orders were identified which were entered with order type as “RIVABAG” and “RIVASYR” which signified that these orders could be made in RIVA. The RIVA database was used to analyze the percentage of patient specific orders that are made in RIVA out of all orders that are RIVA eligible. These two databases were used in collaboration to identify the percentage of patient specific doses that are prepared by RIVA. Also, the RIVA database was used to identify the number of non-hazardous drugs prepared by RIVA in a month.

Results: On average, 35% of all patient specific medications are prepared by RIVA at Humber River Hospital. For non-hazardous drugs, on average in a month, RIVA prepares 130 doses of ondansetron 4 mg, 148 doses of dexamethasone 10 mg, and 15 doses of ranitidine 50 mg.

Conclusion: At Humber River Hospital, RIVA prepared approximately 1 out of 3 patient specific doses and all doses for ondansetron 4 mg, dexamethasone 10 mg, and ranitidine 50 mg. For future direction, the aim is to prepare approximately 70% of all patient specific doses in RIVA.

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What Do We Know About Patient Wait Times? Experience at a Regional Cancer Centre

Objective: The objective of this study was to review all patients treated with chemotherapy in 2015 at the Odette Cancer Centre (OCC) to determine overall patient wait times and to analyze drug preparation and workload.

Design: Procedural time stamp data was collected from our centre's chemotherapy scheduling software and was reviewed for each step of the patient experience (i.e. arrival, approval, processing, ready, and meds received). Three groups of patients were analyzed (clinical trials, pre-approvals/standings, and all other chemotherapy).

Results: There were a total of 20,228 patient visits to the OCC for chemotherapy treatment in 2015. Median overall wait time for patients receiving clinical trial chemotherapy (n=982) was 2:20:36; for patients whose treatment was pre-approved (n=3527), including day 2+ of multi day treatments, wait time was 00:49:48; and for all other chemotherapy (n=15,719) was 2:14:15. On average there were 1687 patient treatment visits each month (roughly 88 patients a day).

Conclusion: This study was conducted to open a dialogue with our centres' nursing and medical oncology teams to not only inform, but to also determine if there are quality improvement initiatives that can be taken to reduce the time patients spend in our centre.

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Pharmacost: A Novel Visualization and Computation App for Budget Impact Analysis of Drug Treatment Programs

Objective: Develop a simple, intuitive App called PharmaCost to calculate multi-year budget impact of new drug treatment programs that incorporates delayed start for year of implementation and graduated uptake of a drug treatment program.

Design: PharmaCost's input parameters include standard dose (including loading dose if required) for each drug in a treatment program, number of cycles and intervals. Dose modification percentages can also be entered. The budget impact is calculated by entering annual number of new patients, legacy patients or number of patients on manufacturer's access program and implementation date.

Results: PharmaCost calculates drug treatment cost per patient for the entire duration of therapy and annual budget impact for up to five years. It also calculates annual wastage cost. It allows for visualization of cost uptake based on treatment start date, patient numbers and drugs involved. The annual calendar can be divided into months or fiscal periods depending on a jurisdiction's financial calendar. The App allows for comparison of budget impact of up to five different drug treatments and graphs cumulative budget impact for the first year depending on time of implementation. The best features are the ability to perform sensitivity analyses on multiple factors and export consolidated input parameters to an Excel® file.

Conclusion: PharmaCost is the first easy-to-use App that enhances drug plan managers ability to precisely calculate budget impact of drug treatment programs and modify parameters based on their jurisdiction's specific patient population.

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Influencing Antiemetic Prescribing Practices and Funding Changes Through Evidence-Based Guidelines

Objective: In 2013 Cancer Care Ontario released updated antiemetic recommendations supporting the use of aprepitant-based combinations as 1st line therapy for highly emetogenic and 2nd line therapy for moderately emetogenic chemotherapy and discouraging the prolonged use of 5-HT3 antagonists. In 2014 changes were made in the Ontario drug formulary to align public funding to those recommendations. The impact of the changes in guidance and public funding on prescribing practices are now being analyzed.

Design: Using the Ontario Drug Benefit (ODB) database, data was extracted to analyze the prescribing practices of aprepitant, granisetron and ondansetron for chemotherapy-induced emesis between the pre-funding period (November 2013 to September 2014) and post-funding period (October 2014 to July 2015).

Results: Prior to funding changes, an average of 197 prescriptions/month of aprepitant were billed to the ODB program totaling $22,422. After funding, an average of 1,165 prescriptions/month of aprepitant were billed totaling $132,145. This represented a 490% increase in utilization. The combined 5-HT3 receptor antagonists prescriptions/month billed during the respective time periods were 5,592 ($405,604) and 5,536 ($402,628). This represented a 1% decrease in utilization.

Conclusions: There was a significant increase in aprepitant utilization and total expenditure to the ODB program indicating strong uptake of the triple-drug recommendation for highly emetogenic regimens. However, there was minimal change in prescribing practices related to the 5-HT3 receptor antagonists, indicating a reluctance to decrease utilization. Further work is necessary to discourage the prolonged use of 5-HT3 receptor antagonists.

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