



BCCDC Foundation *for* Public Health
Driving Innovation. Advancing Service.



BC Centre for Disease Control
An agency of the Provincial Health Services Authority

Public Health

Global challenges

local solutions



PROGRAMME & ABSTRACTS

RESEARCH WEEK OCTOBER 24 - 28, 2016

RESEARCH, DISCOVERY AND BEST PRACTICE!

BC CENTRE FOR DISEASE CONTROL | VANCOUVER CANADA | BCCDC'S 9TH ANNUAL RESEARCH SYMPOSIUM

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Acknowledgements:

The BCCDC would like to acknowledge the following people for their contributions made towards the success of this year's research symposium:

Agatha Jassem, Cletus D'Souza, Jennifer Gardy, Kristy Kerr, Lisa Young, Michael Donoghue, Priscilla Vuong, and Robert Balshaw.

The symposium would like to also like to thank the generous support of the BCCDC Foundation for Public Health for this knowledge translation event.



BCCDC Foundation for Public Health

Driving Innovation. Advancing Service.



Research Week at the BCCDC is an annual tradition here at the centre, where we highlight our successes and celebrate our research and innovation accomplishments from the past year. The work we do here at BCCDC is vital for the province, with policy and practice implications at local, provincial, national, and international levels.

Our theme this year is "Public Health: Global challenges, local solutions." As healthcare professionals, we are constantly presented with new and emerging public health challenges that have local and global implications, and we at the BCCDC are at the forefront of the province's prevention, detection, and control response to these and other public health challenges. Global trade and travel mean that an emerging public health threat anywhere in the world could be only a few hours away from Vancouver, and we must be ever vigilant and ready to respond. As an example, major global public health priorities currently include overdoses attributed to drugs laced with fentanyl and Zika virus infections which are linked to microcephaly in newborns. The BCCDC has been at the center of the provincial response to both these situations.

Impactful and lasting interventions to such public health challenges require interdisciplinary solutions involving laboratory medicine, classical epidemiology, and innovative new analytic techniques. The BCCDC is uniquely positioned to generate such intervention strategies given our broad scientific expertise and access to key data linkages produced through collaboration between laboratory, epidemiology, and scientific staff at our institution and other provincial agencies. In this way, our research on global public health challenges the areas of communicable disease, and environmental and mental health can have immediate impact on local population health outcomes. Furthermore, we can now look forward to BCCDC staff involvement in chronic disease solutions as we incorporate chronic disease surveillance and prevention to our core activities to fulfill our comprehensive mandate "To work together to protect health, prevent harm, and prepare for threats" for the population of British Columbia.

I encourage everyone to participate in Research Week in support our collective research endeavours. It is an opportunity to celebrate our successes, learn from our colleagues, and share new ideas. Research and innovation must remain central to BCCDC values as we work together to improve the overall population health of BC's 4.7 million residents.

Sincerely,

Dr. Mark Tyndall, MD, ScD, FRCPC
Executive Medical Director at BCCDC and Deputy Provincial Health Officer
BC Centre for Disease Control
Provincial Health Services Authority

Programme at a Glance



Workshops



Monday, October 24, 2016 The Communications Conundrum Lisa Lambert

Noon to 1 pm
Lane Level Lecture Hall



Wednesday, October 26, 2016 Global Cuisine, Local Produce: An Interactive Team-building Cooking Class* Chef Eric Arrouzé

12:00-1:30 pm
Lane Level Lecture Hall

**Registration required for this special workshop*



Presentation Schedule

Tuesday, October 25, 2016

| Time | Presenter | Full Title |
|-----------|--------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1000-1015 | Mark Tyndall | Welcome & Intro to Research Week |
| 1015-1050 | Keynote: Gina Ogilvie | Leading Globally relevant research in a provincial health system: From idea to implementation |
| 1050-1105 | Melissa McLaws | Reportable Zoonoses in BC |
| 1105-1120 | Devon Haag | GetCheckedOnline: Use of an Internet-based STI/HIV testing service |
| 1120-1135 | Linda Dix-Cooper | Lead, mercury & cadmium biomarker levels & sources of exposure among women new to BC |
| 1135-1150 | Lisa Ronald | Predicting tuberculosis risk in the foreign-born population of BC |
| 1150-1205 | Mark McCabe | Do Bugs Need Drugs? Innovations in antimicrobial data visualization using Tableau |
| 1205-1225 | Chelsea (Pyles) Treloar and Alexandra Nunn | BC's Influenza Prevention Policy: Healthcare workers' survey, 2015/16 influenza season |
| 1225-1230 | Agatha Jassem | Day's recap |

Thursday, October 27, 2016

| | | |
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| 1000-1005 | Robert Balshaw | Welcome |
| 1005-1020 | Jane Buxton | Using participatory methods to ensure knowledge translation in harm reduction research |
| 1020-1035 | Karuna Karunakaran | Immunoproteomic discovery of Salmonella T cell antigens for vaccine development |
| 1035-1050 | Natalie Prystajeky | Whole genome sequencing: from research to routine laboratory practice |
| 1050-1105 | Muhammad Morshed | Delayed Serological Response against Treponema pallidum may attribute to Upsurge of Syphilis |
| 1105-1120 | Angela Eykelbosh | Leveraging the Canadian Health Measures Survey for Environmental Health Research in Canada |
| 1120-1135 | Lorraine McIntyre | Capturing shellfish related illness into reportable statistics for BC |
| 1135-1215 | Keynote: Thomas Kerr | Drug Policy: Global Challenges and Local Solutions |
| 1215-1230 | Mark Tyndall | Day's Recap/closing remarks |

**Most talks will be 10 minutes
with a 5 minute session for questions**

Don't forget! There is a **poster scavenger hunt!**
Also, learn how to use social media for effective message and make a gourmet meal at our workshops!

We hope you enjoy the week!





Monday, October 24, 2016

The Communications Conundrum

Lisa Lambert, Head, Strategic Communications TRIUMF

Communication is at the heart of who we are as human beings. So why is it so challenging to communicate clearly – especially when it relates to foundational concepts in public health such as risk and uncertainty? Or when we are trying to catalyze change and inform good decision-making? Come prepared to participate in this interactive workshop to help you bring clarity to your communications – whether in-person, online, or in print. You'll not only discover key insights about your audience, but also about yourself.

Wednesday, October 26, 2016

Global Cuisine, Local Produce: An Interactive Team-building Cooking Class at work

Chef Eric Arrouzé

12 to 1:30 PM

Come cook with Chef Eric Arrouzé, former executive chef at Le Cap Estel, a luxury hotel on the French Riviera. Learn how to make a soup, salad and dessert with a global twist. Best of all – you get to eat everything you cook! Vegetarian menu will be available. All you need to bring is your apron!



Like to Cook? JOIN Chef Eric Arrouzé



Come Cook with Chef Eric!

Global Cuisine Local Produce

Wednesday, October 26, 2016
12 - 1:30 PM @ Lane Level Lecture Hall

Make a soup, salad and dessert!
Eat everything you cook!

Bring an apron if you're concerned about mess!
Lane Level Lecture Hall

RESEARCH SYMPOSIUM



Poster Scavenger Hunt

Answer the questions
and you could win a prize!

Collect your question sheet at the
Lane Level Lecture Hall door,
visit the posters,
answer the questions,
win PRIZES!

Submit your completed answer sheet by Friday noon
to the drop-off box in Central Admin and you could win:

\$25 Chapters Gift Card
\$10 Cultured Coffee & Tea Gift Card

Poster Abstracts In alphabetical order by first author



Participant, Peer and Peep: Engaging People Who Have Used Illicit Drugs (PWUD) in Qualitative Research

Ashraf Amlani, Alissa Greer, Cheri Newman, Brian Leblanc, Hugh Lampkin, Katie Lacroix, Charlene Burmeister, Jane Buxton

Working in partnership with people with lived experience of drug use (peers) can reduce health disparities by making services relevant to peer needs. The Peer Engagement and Evaluation Project (PEEP) team includes peer research assistants. We conducted 13 focus groups with PWUD across BC to identify barriers and essential ingredients for peer engagement. Barriers included feeling judged, limited opportunities and lack of funding; ingredients for success included peer champions, safe gathering spaces, regular meetings, being solutions-oriented and support from other peers and allies. Listening to peers provides key insights for service providers on how to meaningfully engage PWUD.



Avian Influenza Virus Surveillance and Characterization using Quantitative RT-PCR and Targeted Resequencing of Wetland Sediments

Waren Baticados, Chelsea Himsforth, Agatha Jassem, Michelle Coombe, Patrick Tang, Shing Zhan, Mohammad Qadir, Sepideh Alamouti, Brian Kwok, William Hsiao

Avian influenza (AI) is an economically important viral disease of birds reported to infect other animals and humans. The current surveillance system for AI in wild bird populations failed to detect an outbreak AI virus (AIV) in the Fraser Valley of British Columbia in 2014, which resulted in millions of dollars of economic losses. Since infected birds expel the virus in feces, we explored an alternative strategy of virus detection and characterization in sediment samples from wetlands where birds congregate. Using advanced molecular and sequencing methods, we detected and characterized the AI virus strains in wetland sediments. We showed that wetland sediment testing is a viable alternative for AIV surveillance in wild migratory birds and can be used in designing an early warning system for AIV poultry outbreaks.

“Think of the Sink”: Investigating Outbreaks of Carbapenemase-Producing Organisms

Elizabeth Broadkin, Elizabeth Bryce, Susan Roman, Rita Dekleer, Terry Dickson, Linda Hoang

A cluster of carbapenemase-producing organisms (CPO) at two acute care facilities led to an investigation of plumbing systems. Facilities cultured plumbing in ICU and/or HAU units. Isolates were tested by qPCR for NDM, KPC, and OXA-48 genes. Three rooms at Facility A had KPC or NDM positive specimens. Facility B had KPC positive specimens in 5/18 rooms. Drain systems were replaced; cultures 5-30 days later in A were negative, cultures 48 hours later in B were positive in 4/5 rooms. Facilities instituted a preventive drain maintenance program. Plumbing should be considered as a nidus particularly when there is sporadic occurrence of resistant bacteria in the absence of a patient source.



Hepatitis C: the Basics - An Online Course to Address Patient and Provider Knowledge Gaps

Terri Buller-Taylor, Liza McGuinness, Melissa Yan, Naveed Janjua

Hepatitis C: The Basics, a 30-60 minute online course, significantly improved pre- and post-test hepatitis C (HCV) scores for patients and providers ($p < .001$). Perceived gains were substantive: (1) over 80% of all participants reported their perceived knowledge gains to be at least ‘Some’ or greater, and (2) 70% of providers reported that the course increased their perceived capacity to educate clients and to encourage client engagement with care by ‘A lot’ or ‘Double.’ Given the rapidly changing landscape of HCV, online courses in individual and group settings are a cost-effective method of addressing key patient and provider knowledge gaps and to encourage patient engagement in HCV care.



Knowledge translation of stigma and trust findings from an evaluation of harm reduction services in British Columbia, Canada

Heather Burgess, Jane Buxton

An evaluation of harm reduction services in British Columbia identified stigma as a barrier to accessing health and harm reduction services for people who use drugs (PWUD). Using participatory methods, knowledge translation of these findings produced an interactive learning module that aims to facilitate collaborative efforts between PWUD, health care practitioners, and public health leadership to reduce stigma and facilitate access to services.

Effect of OST and Psychotherapy on HIV Risk Among HCV Infected Individuals

Zahid Butt, Nabin Shrestha, Naveed Janjua, Dionne Gesink, Mark Gilbert, Jason Wong, Margot Kuo, Amanda Yu, Maria Alvarez, Mei Chong

Hepatitis C Virus (HCV) and HIV infections co-occur in certain population groups because of shared risk factors. Understanding differences in HIV incidence among HCV infected individuals can help inform strategies to prevent HIV infection. This study estimated the time to HIV diagnosis among these individuals and evaluated factors that could affect HIV infection risk. Injection drug use, HBV coinfection, MSM, and urban residence increased the risk of HIV; while engagement in OST and mental health counseling reduced the risk of HIV infection among HCV infected individuals. Harm reduction programs coupled with OST and engagement with mental health services may reduce the risk of acquiring HIV.



Social disparities and co-evolution of HIV/HCV infections, mental disorders and substance use: the British Columbia Hepatitis Testers Cohort

Zahid Butt, Nabin Shrestha, Margot Kuo, Dionne Gesink, Mark Gilbert, Jason Wong, Amanda Yu, Maria Alvarez, Hasina Samji, Jane Buxton

A confluence of co-morbidities, substance use and social disparities is commonly seen in Hepatitis C Virus (HCV) and HIV infected individuals. This study examined the coevolution of HIV and HCV infections, mental illnesses, substance use and disparities over time in BC during 1990-2013 using the BC Hepatitis Testers Cohort. We found co-occurrence of substance use, mental illnesses, co-infections and socioeconomic disparities which varied across HIV and HCV infection groups. Our study findings could inform optimal alignment of prevention, care and support services for HIV and HCV infected population within the context of changing epidemiology, disparities and risk profiles of these groups.



Working with people who drink non-beverage alcohol to describe perceived harms and proposed harm reduction initiatives

Alexis Crabtree, Nicole Latham, Jane Buxton

Abstract: Harm reduction for people who use non-beverage alcohol (e.g. mouthwash and rubbing alcohol) is a growing area of research and clinical interest. This presentation will share the results of a qualitative, community-based study conducted in Vancouver, BC. The key themes identified were: accessibility and affordability drive use; perceived harms are closely tied to poverty and marginalization; and possibilities for harm reduction initiatives include supporting existing informal harm reduction strategies and establishing peer-based, non-residential managed alcohol programs.

Use of genome sequencing to inform diagnostic assay development for *Streptococcus pneumoniae* and *S. pseudopneumoniae*

Matthew Croxen, Tracy Lee, Linda Hoang

Pathogen identification is key to proper treatment and management during infections. Biochemical and 16S rRNA gene sequencing is insufficient to discriminate between closely related organisms. Sometimes this discrimination is important for appropriate clinical action. This is the case with *Streptococcus pneumoniae* and other *Streptococcus* spp. such as *S. pseudopneumoniae*. Here we demonstrate the use of genome sequencing in developing species-specific markers for differentiating *S. pneumoniae* from *S. pseudopneumoniae*. These markers can be used to develop a suitable diagnostic test.



Do Bugs Need Drugs? Antibiotic Costs, Utilization, and Data Visualization

Laura Dale

Program evaluation of Do Bugs Need Drugs? has revealed large reductions in antibiotic utilization and costs since the program began in 2005. In the past, reporting has been done via long, static annual reports that display trends broken down by age, sex, Health Authority, and other variables. This year, in lieu of a traditional report, we've created an interactive dashboard in Tableau. Tableau allows the user to walk themselves through the data, according to their own interests and thought processes. It allows for more complicated displays, but does not clutter the user with excess information that may not be of interest.



Participant Perspectives from the BC Take Home Naloxone program

Andrew Deonarine, Graham Ambrose, Ashraf Amlani, Jane Buxton

Focus groups and interviews with THN participants identified positive interactions with ambulance and fire services, but concerns about calling 911 in an overdose event. Reasons for not calling 911 included: fear of arrest due to outstanding warrants, possession of drugs or breach of the conditions of their probation. Law enforcement interviewees were cognizant of participants' concerns and expressed a willingness to engage with THN participants and the THN program in general.

Efforts are being made to work collaboratively with law enforcement agencies to explore policy alternatives for responses to overdose-related calls.



Preventing Tuberculosis in a Low Incidence Setting: Evaluation of Multi-lingual, Online, Educational Videos on Latent Tuberculosis

Jie Gao, Maureen Mayhew, Victoria Cook

Mixed methods evaluation of a culturally-tailored, multi-lingual, short, educational video on LTBI that was translated into the five dominant languages spoken by TB patients in BC. The videos were viewed 6,999 times in all languages over one year including in source countries. Viewing the videos was associated with a 25% increase in knowledge score when controlling other factors; 84% of viewers rated the videos as helpful. This evaluation suggests that these on-line videos may be an effective adjunct to clinical care. They could potentially promote accurate yet simple descriptions of LTBI provided to patients by health care workers.



Patient perspectives and outcomes of a provincial methadone formulation change in British Columbia

Alissa Greer, Sherry Hu, Ashraf Amlani, Sarah Moreheart, Olivia Sampson, Jane Buxton

We assessed the consequences of the transition from compounded Tang™-flavored methadone to the ten-times concentrated cherry-flavored Methadose™ on 405 patients receiving methadone maintenance therapy. Reporting worse taste was significantly associated with increasing dose (OR=2.46), feeling more dope sick (OR=3.39), and worse pain (OR=4.65); feeling more dope sick was associated with increasing dose (OR=2.24) and supplementing with opioids (OR=8.81). Medication policy changes which affect vulnerable populations needs a coordinated approach that engages all stakeholders and communicates reasons, risks and consequences of the changes and provides additional psychosocial support.



Paying people with lived experiences in community based work: Challenges and opportunities for inclusion and equity

Alissa Greer, Jane Buxton

Community based participatory research is a collaborative approach that involves community partners in the research process. Despite recognizing the importance of peer involvement we found no principles for equitable and fair compensation for their time and expertise. We reviewed organizational processes, policy documents, grey literature, and financial structures to develop guidelines to help navigate social assistance programs, strategies for obtaining bank accounts and identification, and processes to overcome obstacles. To support the equitable partnership of peers in our work, we must streamline onboarding processes and minimize obstacles in hiring people with lived experience.

Clinical Performance and Value-Add of the Luminex MAGPIX NxTAG Respiratory Pathogen Pathogen Panel

Agatha Jassem, Lisa Li, Ron Chow, Kingsley Gunadasa, Rob Azana, Corrine Ng, Ana Paccagnella, Brian Auk, Linda Hoang, Mel Kraiden

The BCCDC Public Health Laboratory uses in-house developed PCR assays and a Luminex viral panel assay for detection of viral respiratory pathogens and atypical bacterial agents. We evaluated the performance of the new MAGPIX NxTAG panel assay for simultaneous detection of these organisms. Analytical performance of the MAGPIX assay was equivalent to the older Luminex assay and in-house assays. In a prospective head-to-head evaluation of the new MAGPIX assay, samples sent only for viral testing yielded bacterial agents and samples sent only for bacterial testing yielded viral agents. Implementation of the MAGPIX assay, a syndromic panel, enhances the detection of respiratory pathogens.



Struggling to put food on the table: Characteristics of food insecure households in British Columbia

Melanie Kurrein, Rita Zhang, Dr. Na Li, Naomi Dachner, Sarah Gustin, Theresa Harris, Dr. Valerie Tarasuk, Dr. Drona Rasali

More than one in 10 (11.8%) households in BC experience food insecurity, meaning that they worry about or lack the financial means to buy healthy, safe, acceptable food. Prevalence of household food insecurity was assessed using Canadian Community Health Survey data from 2011-12. The findings show that the majority (65.0%) of food insecure households were employed; about one in six children (15.6%) lived in food insecure households; and 76% of households on social assistance experienced food insecurity. Given the significant physical and mental health impacts, food insecurity is a public health issue that requires policy interventions that address the root cause (i.e., lack of income).



PCR is Useful as a Supplemental Test in the Reference Laboratory to Assist with Diagnosis of Amoebiasis in Liver Samples

Teresa Lo, Quantine Wong, Min-Kuang Lee, Muhammad Morshed

The protozoan pathogen, *E. histolytica*, can cause serious invasive extraintestinal (liver) disease and is endemic in many tropical areas in the world. BCCDC PHL routinely receives liver abscess samples for *E. histolytica* diagnosis. An ELISA confirmatory test is available for distinguishing *E. histolytica* from *E. dispar* from stool samples but is not recommended for liver samples. Microscopy is recommended for Liver abscesses but not a very sensitive test. We evaluated PCR against microscopy and the *E. histolytica* PCR test has proven to be an excellent supplemental test for the diagnosis of *E. histolytica* for liver abscesses samples.

Histoplasma capsulatum var. duboisii isolated from a patient over five years post exposure

Shazia Masud, Inna Sekirov, Sarah Border, Bing Wang, Andrew Churg, Dwight Ferris, Muhammad Morshed, Linda Hoang

African histoplasmosis, caused by *Histoplasma capsulatum* var *duboisii* (*H. capsulatum* var *duboisii*), is rare outside of Africa. The usual presentation is granulomatous lesions affecting skin, subcutaneous tissue, lymph nodes and bones. We are presenting a case of Histoplasmosis due to *H. capsulatum* var *duboisii* infection that occurred 5 years after the patient had left Africa. The diagnosis of *H. capsulatum* var *duboisii* infection was very challenging in this case, as the patient had been to endemic areas for blastomycosis and histoplasmosis. A detailed review of histopathological features and ultimate culture positivity helped to confirm *H. duboisii* infection.



Illicit drug overdose deaths resulting from income assistance payments: Analysis of the 'check effect' using daily mortality data

Michael Otterstatter, Ashraf Amlani, Hugh Guan, Lindsey Richardson, Jane Buxton

Daily mortality data due to illicit drug overdose in BC were analyzed in relation to income assistance payments. Average weekly mortality was 40% higher during weeks of income assistance payments compared to weeks without ($P < 0.001$); mortality was significantly higher one and two days after cheque disbursement. Granger causality testing suggests the timing of cheque issue was causally linked to increased drug overdose mortality ($P < 0.001$). Our results illustrate the need to explore policy options and pursue further research to see whether varying the timing of payments among recipients could reduce this excess mortality and the related demands on health and social services.



Enteric Disease Outbreak Interventions: An Analysis of Outbreak Metrics from the British Columbia Centre for Disease Control, 2005-2014

Michael Otterstatter, Marsha Taylor, Eleni Galanis

Routine analysis of outbreak data may help identify requirements for action, support continuous quality improvement, and enhance our understanding of the impact of public health activities on the outcomes of an enteric disease outbreak. This study demonstrates how outbreak data can be used to evaluate the timing of investigations and interventions. It provides considerations for future work, including the need for data on dates of key outbreak milestones and analytical studies or modelling to predict the impact of interventions on outbreak duration or case counts over time.

Is Play-dough a Vector For Transporting And Accumulating Lead? A Pilot Study Look Into Day-cares In Vancouver

Farshad Palad, Reza Afshari, Angela Randall, Karen Bartlett, Ryan Allen

Play-dough is commonly used within daycares in Vancouver. However, no studies have looked at whether or not play-dough gathers lead when it is played with. Knowing that lead settles in dust, and keeping in mind children's hand to mouth behavior, it becomes very important to study this potential exposure pathway.

For this study, twenty one daycares were selected and eventually six of them met the criteria, consented and provide three samples of their play-dough throughout one week of play. Daycares were asked to continue their play-dough usage under normal conditions. Majority of our collected samples and controls were negative using a semi-quantitative test. Further studies are recommended.



Evaluating Take Home Naloxone in Prison: Learning from one year of experience in BC Corrections

Lindsay Pearce, Jane Buxton, Diane Rothon

Overdose is the leading cause of death among recently released inmates due to a loss of drug tolerance during prison. Approximately 30% of BC Corrections inmates are diagnosed with a substance use disorder. The BC Take Home Naloxone (THN) program trains inmates to administer naloxone and provides a THN kit to inmates upon release. The program was piloted in July 2015 at two BC correctional centers. An evaluation was conducted to improve the program at existing pilot sites and to facilitate the implementation of the program at new correctional centers. Recommendations from this evaluation provide important knowledge to other regions interested in implementing this important intervention.



Implementation of Centralized IGRA testing in British Columbia Partnering with Laboratories across British Columbia

Yvonne Simpson, Marc Romney, Edith Blondel-Hill, Ben Mack, Muhammad Morshed

TB Interferon-gamma (TB IGRA) testing requires samples that are time and temperature sensitive. Implementing IGRA testing in a large province is difficult with collection sites widely separated geographically. The BC PHL developed an implementation strategy and in conjunction with partnering BCCDC TB Clinic, hospital and laboratory sites, successfully implemented TB IGRA testing, the first province to do so in Canada.

The Prevalence of Peanut Allergy in British Columbia Residents From Different Countries of Origin

Angela Randall, Reza Afshari, Farshad Palad, Jane Buxton

A pilot study was conducted to determine whether the prevalence of peanut allergy varies between individuals from different countries of origin, using a sample population of BC residents, as well as their family members and close friends. Previous research has shown differences by geography and ethnicity. However, there is lack of epidemiological data in Canada. The findings of this study will help elucidate the relationship between peanut allergy prevalence and country of origin, provide insight on possible mechanisms of action, and subsequently inform peanut allergy prevention initiatives in Canada.



Risk factors for acquisition of multidrug-resistant Escherichia coli and development of community-acquired urinary tract infections

Vivian Ukah, Patrick Boerlin, Richard Reid-Smith, Michael Mulvey, Danielle Daignault, Brent Avery, Jane Parmley, Andrea Port, Magdalena Glass, Ameer Manges

This applied public health study focused on determining whether behavioral, dietary and/or environmental risk factors were associated with acquiring and developing urinary tract infections (UTIs) caused by multidrug-resistant Escherichia coli in healthy women at 5 geographic sites across Canada. Travel, consumption of certain foods and contact with animals were associated with drug-resistant UTI; these results may have implications for public health and antimicrobial stewardship.



Inequities in selected health indicators across social determinants measures

Li Rita Zhang, Drona Rasali, Mike Pennock, Trish Hunt

There is considerable evidence that health status varies greatly with social and economic factors commonly referred to as social determinants of health (SDH). We analysed selected SDH against selected population health indicators using Canadian Community Health Survey (CCHS, 2007/08-2011/12), Early Development Instrument (EDI, 2011/12-2012/13), and vital statistics (2007-2011) to examine health inequity in British Columbia. We found that higher socio-economic status was associated with more favourable health outcomes for all health indicators assessed.

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with a **5 minute** session for **questions**



Presentation Abstracts Tuesday, October 25, 2016



10:00-10:15

Welcome and introduction to Research Week

Mark Tyndall



10:15-10:50 KEYNOTE

Leading Globally relevant research in a provincial health system: From idea to implementation

Gina Ogilvie

Using several case studies, Dr. Ogilvie will review the challenges and opportunities of leading research in a provincial health system that can be both locally and globally valuable. She will reflect on approaches to successes and outline aspects of the system that can be leveraged to achieve benefits for all.



1050-1105

Reportable Zoonoses in BC

Melissa McLaws

Since early 2015, the Ministry of Agriculture has shared reports on the occurrence of selected zoonotic diseases in animals with the Provincial Health Officer in British Columbia. This enables public health officials to liaise with their veterinary colleagues to assess and manage any associated human health risk. This presentation will summarize the key features of the cases that have been reported so far, including Q-fever, influenza, psittacosis and W. Nile Virus. Rabies is a special case, with many potential human and domestic animal exposures reported and several positive bats detected each year. Results and insights from rabies surveillance and risk management will also be discussed.

1105-1120**GetCheckedOnline: Use of an Internet-based STI/HIV testing service in Vancouver and uptake by promotional strategy***Devon Haag*

GetCheckedOnline (GCO) is the BCCDC's online STI/HIV testing service that launched in Vancouver in September 2014. Vancouver clients access GCO by: [1] email invitations sent to clinic clients ("invitees"); [2] access codes given when clients are turned away from clinics due to capacity ("turn-aways") or directly request a code ("request"); [3] access codes provided to gay and bisexual men through campaigns ("MSM"); [4] access codes given through alternate channels ("community", "other clinics"). We compared usage and uptake of GCO across these promotional strategies for the first 22 months of the program. Clinic "turn-aways" and "requests" were the most motivated to test through GCO.

**1120-1135****Lead, mercury & cadmium biomarker levels & sources of exposure among women new to British Columbia from India, China, Hong Kong & Taiwan***Linda Dix-Cooper*

Results from an investigation into heavy metal biomarker levels and sources of exposure among newcomer women are presented. Topics include whether exposures are higher among newcomer women than Canadian-born women in BC and Canada; Is this a population health concern? And, if so, how can we help mitigate potential health risks to unborn future children of women who are now or soon-to-become pregnant. Dietary, behavioral, and occupational sources were examined among 164 participants who enrolled in the BCCDC SEED Study from April, 2015 to April, 2016.

**1135-1150****Predicting tuberculosis risk in the foreign-born population of British Columbia: a retrospective population-based cohort study***Lisa Ronald*

Improved understanding of risk factors for developing tuberculosis (TB) will better inform decisions about testing and treatment for latent TB infection (LTBI) in migrant populations in low incidence regions. The objective of this retrospective population-based cohort study is to examine TB risk factors among the foreign-born population in British Columbia (BC), and to create and validate a clinically relevant multivariate risk score to predict active TB. The major strength of this study is the near-complete capture of the demographic, immigration, and health-service use for more than one million people over a 28-year period.

1150-1205**Do Bugs Need Drugs? at the click of a button: Innovations in antimicrobial data visualization using Tableau***Mark McCabe*

With the intention of enhancing accessibility of information and replacing lengthy annual reports, the Do Bugs Need Drugs? Program has created data visualization tools in Tableau to display antimicrobial utilization and resistance trends from PharmaNet and LifeLabs data.

By simply pointing-and-clicking on an interactive dashboard, users can readily discern how utilization of antimicrobials has changed in the last two decades and across key variables. Instead of navigating pages of susceptibility charts and antibiograms, trends in antimicrobial resistance over time are now visible at the click of a button.

Come and see these informative and versatile tools in action!

**12:05-12:25****BC's Influenza Prevention Policy: Healthcare workers' knowledge, attitudes, practice and implementation survey, 2015/16 influenza season***Alex Nunn and Chelsea Treloar*

BC healthcare workers were invited to participate in an online survey about their experiences with the BC Influenza Prevention Policy during the 2015/16 influenza season. This survey was the first of BC healthcare workers' covered by the policy and was designed to inform two studies; one on healthcare workers' perspectives on influenza immunization and the policy, and a second study of healthcare workers' and managers' perspectives on the policy implementation and enforcement. The findings from these studies will inform policy makers and stakeholders of healthcare workers' experiences with the policy and on the successes and challenges with policy implementation, enforcement and compliance.



Presentation Abstracts Thursday, October 27, 2016



10:00-10:05

Welcome and Opening of the Thursday Session

Robert Balshaw



10:05-10:20

Using participatory methods to ensure knowledge translation in harm reduction research

Jane Buxton

Most research projects culminate in publications with little dissemination to participants. Community based participatory researchers have a duty to share findings with participants. We describe two BCCDC led harm reduction projects which engaged participants to develop knowledge translation materials. One project identified stigma as a barrier to harm reduction services access. Peers created modules based on focus groups to improve inclusion and compassion. Inner City Youth explored why hard to engage youth connected with the take home naloxone program. Focus group quotes were illustrated by youth artists in a booklet and postcards; a youth specific training video was developed.



10:20-10:35

Immunoproteomic discovery of Salmonella T cell antigens for vaccine development

Karuna Karunakaran

Salmonella enterica causes serious global burden of morbidity and mortality and is a major cause of infant bacteremia in sub Saharan Africa. Diseases caused by Salmonella are treatable with antibiotics but successful antibiotic treatment has become difficult due to antimicrobial resistance. An effective vaccine together with public health effort may therefore be a better strategy to control these infections. Protective immunity against Salmonella depends primarily on T cell-mediated immune responses and therefore identifying relevant T cell antigens is necessary for Salmonella vaccine development.

1035-1050

Whole genome sequencing: from research to routine laboratory practice

Natalie Prystajecy

Whole genome sequencing (WGS) holds the promise of revolutionizing medical laboratory practice. In public health microbiology, it is being applied to outbreak investigations, pathogen surveillance and characterization and rare pathogen diagnostics. Current WGS projects at BCCDC PHL are largely research-based and retrospective. Through platform acquisitions and development of workflows and quality programs, we are working towards implementation of WGS in real-time. We will share our experience in developing and validating laboratory workflows for two WGS projects, Salmonella Enteritidis (SE) and carbapenemase-producing organisms (CPOs).



1050-1105

Delayed Serological Response against Treponema pallidum may attribute to Upsurge of Syphilis Cases in MSM Populations

Muhammad Morshed

Syphilis cases in MSM populations in BC have been rising since 2010. Similar rate increases are occurring globally. Recently BCCDC Public Health Microbiology Laboratory implemented PCR testing of T. pallidum for Genital Ulcer Disease (GUD) samples along with traditional serology testing. In a 3 year study we tested 1,111 patients and T. pallidum DNA were detected from 32 patients (2.88%). Among 32 positive patients 7 were detected pre-seroconversion. A separate study of assessing syphilis DNA, 1444 GC-CT anal swabs yielded 12 positives in seropositive men. Molecular syphilis tests may improve detection of pre-seroconversion cases and rapidly identify active infection.



1105-1120

Leveraging the Canadian Health Measures Survey for Environmental Health Research in Canada

Angela Eykelbosh

The Canadian Health Measures Survey (CHMS) collects detailed health and exposure information for a representative sample of Canadians. A semi-systematic review found 37 studies examining various aspects of environmental health, including indoor/outdoor air quality, chemical exposures, and effects of the built environment. The studies have numerous implications for public health policy; however, much of data remain under-utilized. The objective of this paper was to draw attention to the environmental health work published to date, and to highlight innovative approaches and opportunities for further work.

1120-1135

Capturing shellfish related illness into reportable statistics for BC

Lorraine McIntyre

Just because nobody reports it, and we don't test for it, doesn't mean it isn't here. Calls to DPIC suggest paralytic shellfish poisoning (PSP) is occurring in commercial and recreational shellfish consumers.



1135-1215 **KEYNOTE**

Drug Policy: Global Challenges and Local Solutions

Thomas Kerr

This talk will include a review of global drug policy and ongoing drug-related harms. Focus will be given to the growing number of drug policy experiments and innovations globally, including lessons learned in British Columbia.



12:15-12:30

Day's Recap & Closing Remarks

Mark Tyndall



Notes:



A series of horizontal dotted lines for taking notes.

BCCDC'S CELEBRATE RESEARCH WEEK IS A WEEK-LONG SHOWCASE OF EVENTS HIGHLIGHTING RESEARCH EXCELLENCE DONE THROUGH THE CENTRE. COME AND TAKE PART IN THE CELEBRATION!



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Monday through Friday all day – [Poster Viewings](#)

Monday & Wednesday – [Workshops](#)

Tuesday & Thursday 10am-12:30pm – [Research Symposia](#)

Refreshments and light snacks provided at all events.

UBCCDC and BCCDC graciously acknowledges the generous support of the BCCDC Foundation for Public Health for this knowledge translation event.

Exchange ideas with other members of the BCCDC research community, attend workshops, view posters and come to presentations.