International Population Data Linkage Network
2018 Conference

12 - 14 September 2018
Pre Conference - 11 September 2018
Banff Centre, Banff, Alberta, Canada

Conference Program
(program is subject to change)
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| 8:00am to 11:00am | KINNEAR CENTRE 301| PUBLIC ENGAGEMENT/INVOLVEMENT (PE/I) IN DATA-INTENSIVE HEALTH RESEARCH: WHY AND HOW TO DO IT | Participants will use exemplars of data-intensive research to learn how to conduct PE/I in a meaningful way. They will choose the types of people that they will engage with – these could be patients with the disease of interest or members of the public with an interest in data use – and consider how to recruit or contact them. They will develop some initial plans as to the variety of methods they could use to engage with these groups. Finally, they will consider the ethics and challenges of PE/I in data-intensive health research. | - understand the similarities and differences between PE/I in different types of research  
- know how to identify which groups of the public they should engage with  
- know how to choose from common methods to engage with the identified groups  
- understand the ethics and challenges of doing PE/I in data-intensive health research | MARY TULLY, Reader in Pharmacy Practice in the Division of Pharmacy and Optometry, University of Manchester; DON WILLISON, Associate Professor; Program Director - Health Services Research, Institute of Health Policy, Management and Evaluation, University of Toronto |
| 8:00am to 12:00am | KINNEAR CENTRE 303| LEADERSHIP, GOVERNANCE AND RISK MANAGEMENT FOR RESEARCH PROJECTS              | It’s research, things aren’t going to go exactly as planned. The questions are who decides what to change, and how and when will they do that? This hands-on workshop begins with a brief presentation of the trade-offs that must be made under the triple constraint of project management – scope, schedule and budget. For example, that you cannot double the number of deliverables without affecting the time and/or cost it will take to complete the work. We’ll then have a live facilitated session to identify participants’ views on the important negative risks that can affect research projects and discuss ways that those risks can be managed. There will be a seminar on different types of governance and decision-making bodies, and the workshop will conclude with a hands-on simulated decision-making exercise. | - Recognize that people leading research projects sometimes need to make trade-offs between scope, schedule and budget.  
- Describe important risks that can negatively affect research projects and be able to develop risk responses for those risks.  
- Understand governance bodies including the roles and benefits that can come from having one or more of: A Research Executive Team, an Executive Sponsor, a Steering Committee or Advisory Committee.  
- Establish and implement a process that allows a research team or governance body to come to a decision in cases where there isn’t immediate consensus among members. | ALISON PAPRICA, Assistant Professor, Institute of Health Policy, Management and Evaluation, University of Toronto; Vice President, Health Strategy and Partnerships, Vector Institute |
### Documenting the Data Warehouse: A SAS®-Based Hands-On Workshop

In this workshop we describe and illustrate the documentation tools and resources we have developed at the Manitoba Center for Health Policy (MCHP), with hands-on opportunities for you to try them out. This includes a demonstration of the structure and content of the Metadata Repository, a hands-on experience running the Data Quality SAS macros on a sample database, and a demonstration of the structure and content of the MCHP Concept Dictionary and Glossary. Attendees will gain knowledge and experience with the methods and techniques we use related to our documentation efforts. Minimal prior experience with SAS® would be an asset.

**Objectives:**
- Identify the variety of documentation tools and resources available at MCHP (which can be downloaded and transferred to any data management environment)
- Learn how documentation is automatically generated for the Data Quality Report and Metadata Repository via live demonstration of the tools we have developed;
- Learn how to run the Data Quality macros on a sample dataset and how to interpret the results;
- Identify and discuss the integration capabilities between the various documentation tools and resources

Presented by **Mark Smith**, Associate Director, Repository and Deliverables, Manitoba Centre for Health Policy (MCHP), College of Medicine, Rady Faculty of Health Sciences, University of Manitoba; **Saya Hong**, Data Management Analyst, MCHP; **Dave Towns**, Senior Data Management Analyst, MCHP; **Ken Turner**, Data Repository Analyst, MCHP

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### Detecting Potentially Misdiagnosed Dementia Cases via Classification

Machine Learning, datasets, Naïve Bayesian, Minimum distance, Neural Networks, ICD-10, READ, Nominal, Risk Factors... What does it all mean? How do familiar concepts from the healthcare world, map to the mathematical terminology and how does it all make sense? This workshop is designed to provide a thorough exposition of four classification methods, namely, Minimum Distance Classifier, Bayes Classifier, Neural Networks and Random Decision Forest. The experience from a realistic scenario of trying to identify cases of potentially misdiagnosed dementia will be used to demonstrate the relevance between decisions, terminology at a technical level and how they are affected by the environment the data are produced and captured in.

The workshop is based on real world experience that has been captured in the following two publications:
- A pilot study of the use of routinely collected NHS clinical data to identify undiagnosed dementia
- Using Nhs Primary Care Data To Identify Undiagnosed Dementia

**Objectives:**
- An in-depth exposition to Machine Learning classification terminology and methodology and how they relate to the real-world healthcare environment.
- Practical hands on application of the theory to a realistic scenario involving dementia.

Participant’s pack including: A Virtualbox instance with all required software and data set-up and ready to go. This is for the participants to keep. This is not a training tool, this is a production ready environment that participants can keep and apply what they learn from their course at their own time.

Presented by **Athanasios Anastasiou**, Data Scientist, Swansea University Medical School
1:00pm to 4:30pm
KINNEAR CENTRE 303

DEVELOPING YOUR RESEARCH CAREER AS A HEALTH DATA SCIENTIST: A 360 DEGREE VIEW

This half day workshop is aimed at Early Career Researchers (ECRs) and those about to complete their PhD. It will give you as an individual a 360 view of yourself and help you assess the types of skills you need to

1. develop in order to work effectively in the field; and
2. develop academic skills to progress in the academic sector.

This interactive workshop will be delivered using a variety of modes including peer interaction and learning, practical exercises and short talks from career data scientists at different stages. There will be a short exercise to complete prior to the workshop in which you will assess yourself across a set of defined and internationally recognised competency frameworks including the VITAE.

Objectives:

• To identify key skills that are required by a data scientist.
• To assess your proficiency in the core skills and identify potential training needs.
• To align core skills with broader academic researcher development (VITAE).
• To explore and develop an understanding of the benefits of team data science.
• To create a personalised career development plan.

Presented by COLIN MCCOWAN, Professor, Health Informatics, Robertson Centre for Biostatistics; Associate, School of Medicine, Dentistry and Nursing, University of Glasgow; GEORGINA MOULTON, Senior Lecturer, Bio-Health Informatics, Division of Informatics, Imaging and Data Sciences, University of Manchester.

1:00pm to 5:00pm
KINNEAR CENTRE 305

IBM LIDIC HACKATHON: LINKED DATA INNOVATION CHALLENGE

Participants will engage in a team-based analysis of a complex, linked, simulated dataset provided by Statistics Canada and present their analysis results at the conference in a Rapid-Fire Poster Session. An expert panel of judges will evaluate each team’s submission. Prizes will be awarded in the following categories; 1) Best Use of Data, 2) Best Visualization, 3) Best Overall Analysis. Hackathon guidelines and evaluative criteria will be shared with participants in advance of the event, along with information about accessing the data, a list of assigned team members, and some suggested ideas for approaching the data. Some advance preparation is expected of participants, to learn about the data, and conduct preliminary analyses. In the four-hour on-site session, participants will: (a) share their ideas, (b) choose one analysis to present, and (c) prepare a rapid-fire poster that identifies the objective(s), analysis results, and interpretation of findings.

Objectives:

1. To encourage innovative thinking about complex linked databases
2. To stimulate interdisciplinary and inter-jurisdictional data collaborations
3. To facilitate an environment for creative thinking about data
4. To promote networking amongst participants.

Presented by LISA LI, Professor, Biostatistics; Director, Data Science Platform, George & Fay Yee Centre for Healthcare Innovation, University of Manitoba.
**WEDNESDAY, SEPTEMBER 12, 2018**

**8:00am to 8:30am**
**KINNEAR CENTRE 101**

**WELCOME AND OPENING REMARKS FROM THE CONFERENCE DIRECTORS**
OFFICIAL INDIGENOUS WELCOME

**8:30am to 8:45am**
**KINNEAR CENTRE 101**

**STUDENT RAPID FIRE PRESENTATIONS**

Avoidable mortality among parents whose children were placed in care in Sweden: A retrospective matched cohort study
Presented by Elizabeth Wall-Wieler

Interactive Data Visualization of Patient Experience and Inpatient Datasets using Tableau Desktop.
Presented by Kyle Kemp

**8:45am to 9:45am**
**KINNEAR CENTRE 101**

**PREPARING FOR IMPACT: TIPS FROM AUSTRALIA**

Dr. Diane Watson has an extensive background in health information, performance measurement and public policy in Australia and Canada. Since 2009, she has been the inaugural chief executive and established the New South Wales Bureau of Health Information, the National Health Performance Authority (NHPA) and the Victorian Agency Health Information. These agencies are well known in Australia for monitoring, reporting and comparing the performance of public and private hospitals and health care in local communities. Each of NHPA’s public reports, for example, routinely resulted in hundreds of media items and its website hosts 20+ million-page views each year. In these and prior roles, Dr Watson has set the future direction of high profile, board governed agencies and inspired a strong sense of purpose among a highly talented and specialized workforce.

In this session, participants will learn:

- examples from down under where analyses of big data have driven improvements in health and care
- views on the attributes of big data organisations that have big impact
- reflections on the attributes of big data projects that have a big impact

Presented by **DIANE WATSON**, Chief Executive, New South Wales Bureau of Health Information, the National Health Performance Authority (NHPA) and the Victorian Agency for Health Information

**9:45am to 10:15am**

**BREAK**

**10:15am to 11:45am**
**KINNEAR CENTRE 303**

**A1: Advanced Analytics**

**KINNEAR CENTRE 305**

**A2: Analytical Approaches to Distributed Data**

**KINNEAR CENTRE 206**

**A3: Public Engagement**

**KINNEAR CENTRE 308**

**A4: Delivering and Measuring Impact**

**KINNEAR CENTRE 210**

**A5: Capacity Building**

**KINNEAR CENTRE 301**

**A6: Linking to Emerging Data Types**

**MAX BELL 251**

**A7: Privacy, Regulation and Governance**

**KINNEAR CENTRE 204**

**A8: Social Determinant of Health and Cross-Sectoral Data Linkage**

**MAX BELL 252**

**A9: Data and Linkage Quality (1)**

**MAX BELL 253**

**A10: Data and Linkage Quality (2)**

**KINNEAR CENTRE 201**

**A11: IJDPS Collaborative Workshop – with bubbly and bannock**

**KINNEAR CENTRE 208**

**A12: Statistics Canada Workshop**

**11:45am to 12:30pm**

**LUNCH**

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STUDENT RAPID FIRE PRESENTATIONS

Comparison of Health Behaviour Mortality Hazards in Canada and the United States
Presented by Stacey Fisher

Using Biomedical Text as Data and Representation Learning for Identifying Patients with an Osteoarthritis Phenotype in the Electronic Medical Record
Presented by Christopher Meaney

8:15am to 9:15am
KINNEAR CENTRE 101

INDIGENOUS HEALTH DATA AND THE PATH TO HEALING

Jennifer Walker is a health services researcher and epidemiologist. She has Indigenous (Haudenosaunee) family roots and is a member of the Six Nations of the Grand River. She has a PhD in Community Health Sciences (Epidemiology specialization) from the University of Calgary. Her work focuses on Indigenous use of Indigenous health and health services data across the life course, with a focus on older adults. She collaborates closely with Indigenous organizations and communities to address health information needs. Jennifer holds a Canada Research Chair in Indigenous Health at Laurentian University in the School of Rural and Northern Health. She is a Core Scientist and Indigenous Health Lead at the Institute for Clinical Evaluative Sciences. She also holds appointments at the Centre for Rural and Northern Health Research, the Northern Ontario School of Medicine and the Dalla Lana School of Public Health.

In this session, participants will:
• learn about Indigenous perspectives on data governance, health and well-being
• understand the key principles of Indigenous data sovereignty
• explore community-engaged data linkage and research practices as a means to improving health outcomes

Presented by Jennifer Walker, Canada Research Chair in Indigenous Health at, Laurentian University and Core Scientist and Indigenous Health Lead at the Institute for Clinical Evaluative Sciences

9:15am to 9:45am
BREAK

9:45am to 11:15am
KINNEAR CENTRE 101

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*see concurrent session guide for full details

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D4: Data and Linkage Quality (1)

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D5: Data and Linkage Quality (2)

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D7: Applied Projects (2)

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D9: Applied Projects (4)

KINNEAR CENTRE 208
D10: International Collaborative Workshop (1)

KINNEAR CENTRE 210
D11: International Collaborative Workshop (2)

KINNEAR CENTRE 308
D12: Developing a Publicly Acceptable Electronic Health Data Ecosystem – Panel

11:15am to 12:00pm
KINNEAR CENTRE 101

LUNCH/IPDLN MEMBERS MEETING

12:00pm to 12:45pm
KINNEAR CENTRE 203

POSTERS
### 12:45pm to 2:15pm

**CONCURRENT SESSIONS E**

*see concurrent session guide for full details*

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- **E1:** Advanced Analytics
- **E2:** Social Determinant of Health and Cross-Sectoral Data Linkage
- **E3:** Data and Linkage Quality (1)
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- **E10:** International Collaborative Workshop (1)
- **E11:** International Collaborative Workshop (2)
- **E12:** International Collaborative Workshop (3)

### 2:15pm to 2:45pm

**BREAK**

### 2:45pm to 3:00pm

**STUDENT RAPID FIRE PRESENTATIONS**

International comparison in walkable environments and hospital burden in type 2 diabetes patients
Presented by Sarah Mah

The Effect of Medication Adherence on the Disease Course in Pregnant Women with Inflammatory Bowel Disease
Presented by Sangmin (Sarah) Lee

### 3:00pm to 4:00pm

**ARTIFICIAL INTELLIGENCE/DATA MINING**

Osmar R. Zaïane is a Professor in Computing Science at the University of Alberta, Canada, and Scientific Director of the Alberta Machine Intelligence Institute (Amii). Dr. Zaïane obtained his Ph.D. from Simon Fraser University, Canada, in 1999. He has published more than 270 papers in refereed international conferences and journals. He is Associate Editor of many International Journals on data mining and data analytics and served as program chair and general chair for scores of international conferences in the field of knowledge discovery and data mining. Dr. Zaïane received numerous awards including the 2010 ACM SIGKDD Service Award from the ACM Special Interest Group on Data Mining, which runs the world's premier data science, big data, and data mining association and conference.

Presented by OSMAR ZAIÂNE, Scientific Director, Alberta Machine Intelligence Institute, University of Alberta

### 6:00pm

**MOUNTVIEW BARBECUE**

IPDLN MountView Social
8:30am to 9:30am
KINNEAR CENTRE 101

STUDENT HACKATHON FINALIST PRESENTATIONS AND IPDLN STUDENT AWARDS

An expert panel of judges will evaluate each team’s analysis. Each team will have three minutes to present one infographic that describes their analysis and its significance/relevance to health policy. All team members should plan to participate. There will be time for questions from the judges (and audience) following your three-minute presentation.

Prizes will be awarded to teams for:

1. Best Use of Data
2. Best Visualization
3. Best Overall Analysis

In addition, Statistics Canada will work with the winning teams to disseminate and promote their analyses.

The Jack Tu IPDLN Student Prizes will be given out during this session.

9:30am to 10:00am
BREAK

10:00am to 12:00pm
CONCURRENT SESSIONS F
*see concurrent session guide for full details

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F12: International Collaborative Workshop (3)

12:00pm to 1:00pm
LUNCH
KINNEAR CENTRE 101

1:00pm to 2:30pm
KINNEAR CENTRE 101

(HEALTH) POLICY IN THE AGE OF ALGORITHMS: VALUE-BASED OR DATA-BASED?

Moderated by PIERRE GERLIER FOREST, University of Calgary
Presented by MELANIE MILLETTE, Université du Québec à Montréal; David O’Toole, Canadian Institute for Health Information; NORMA PADRON, American Hospital Association; DIANE WATSON, NSW Bureau of Health Information

2:30pm to 2:45pm
KINNEAR CENTRE 101

INDIGENOUS CLOSING REMARKS

2:45pm to 3:00pm
KINNEAR CENTRE 101

CLOSING REMARKS & CONFERENCE ADJOURNMENT