INTERNATIONAL
Population Data Linkage
NETWORK

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)

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.

Objectives:
- 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

Presented by **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.

Objectives:
By the end of the session participants will be able to:
- 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.

Presented by **ALISON PAPRICA,** Assistant Professor, Institute of Health Policy, Management and Evaluation, University of Toronto; Vice President, Health Strategy and Partnerships, Vector Institute

8:00am to 12:00am **KINNEAR CENTRE 305**	**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; **SAY HONG,** Data Management Analyst, MCHP; **DAVE TOWNS,** Senior Data Management Analyst, MCHP; **KEN TURNER,** Data Repository Analyst, MCHP

1:00pm to 5:00pm **KINNEAR CENTRE 301**	**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 |

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

1:00pm to 4:30pm
KINNEAR CENTRE 303

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.

IBM LIDIC HACKATHON: LINKED DATA INNOVATION CHALLENGE

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

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 LIX,** 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** **OFFICAL 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 and 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	**CONCURRENT SESSIONS A** ***see concurrent session guide for full details*

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 KINNEAR CENTRE 101	**LUNCH**

12:30pm to 1:15pm **KINNEAR CENTRE 203**	**POSTER SESSION**

1:15pm to 2:45pm	**CONCURRENT SESSIONS B** ***see concurrent session guide for full details**

KINNEAR CENTRE 303	B1:	Advanced Analytics
KINNEAR CENTRE 305	B2:	Analytical Approaches to Distributed Data
KINNEAR CENTRE 204	B3:	Public Engagement
KINNEAR CENTRE 206	B4:	Delivering and Measuring Impact
KINNEAR CENTRE 308	B5:	Capacity Building
MAX BELL 252	B6:	Linking to Emerging Data Types
MAX BELL 251	B7:	Privacy, Regulation and Governance
KINNEAR CENTRE 301	B8:	Social Determinant of Health and Cross-Sectoral Data Linkage (1)
KINNEAR CENTRE 305	B9:	Social Determinant of Health and Cross-Sectoral Data Linkage (2)
KINNEAR CENTRE 208	B10:	Applied Projects
KINNEAR CENTRE 210	B11:	International Collaborative Workshop

2:45pm to 3:15pm	**BREAK**

3:15pm to 4:30pm	**CONCURRENT SESSIONS C** ***see concurrent session guide for full details**

KINNEAR CENTRE 303	C1:	Advanced Analytics
MAX BELL 251	C2:	Analytical Approaches to Distributed Data
KINNEAR CENTRE 308	C3:	Privacy, Regulation and Governance
KINNEAR CENTRE 305	C4:	Social Determinant of Health and Cross-Sectoral Data Linkage (1)
KINNEAR CENTRE 301	C5:	Social Determinant of Health and Cross-Sectoral Data Linkage (2)
MAX BELL 252	C6:	Data and Linkage Quality (1)
MAX BELL 253	C7:	Data and Linkage Quality (2)
KINNEAR CENTRE 201	C8:	Applied Projects (1)
KINNEAR CENTRE 204	C9:	Applied Projects (2)
KINNEAR CENTRE 206	C10:	Applied Projects (3)
KINNEAR CENTRE 208	C11:	International Collaborative Workshop (1)
KINNEAR CENTRE 210	C12:	International Collaborative Workshop (2)

4:30pm to 6:30pm **KINNEAR CENTRE 101**	**NETWORKING RECEPTION & SCIENCE SLAM**

8:00am to 8:15am KINNEAR CENTRE 101	**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	**CONCURRENT SESSIONS D** ***see concurrent session guide for full details*
MAX BELL 251	D1: Advanced Analytics
KINNEAR CENTRE 303	D2: Analytical Approaches to Distributed Data
KINNEAR CENTRE 301	D3: Social Determinant of Health and Cross-Sectoral Data Linkage
MAX BELL 252	D4: Data and Linkage Quality (1)
MAX BELL 253	D5: Data and Linkage Quality (2)
KINNEAR CENTRE 305	D6: Applied Projects (1)
KINNEAR CENTRE 201	D7: Applied Projects (2)
KINNEAR CENTRE 204	D8: Applied Projects (3)
KINNEAR CENTRE 206	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*

MAX BELL 251	E1:	Advanced Analytics
KINNEAR CENTRE 301	E2:	Social Determinant of Health and Cross-Sectoral Data Linkage
MAX BELL 252	E3:	Data and Linkage Quality (1)
MAX BELL 253	E4:	Data and Linkage Quality (2)
KINNEAR CENTRE 303	E5:	Applied Projects (1)
KINNEAR CENTRE 204	E6:	Applied Projects (2)
KINNEAR CENTRE 201	E7:	Applied Projects (3)
KINNEAR CENTRE 305	E8:	Applied Projects (4)
KINNEAR CENTRE 206	E9:	Applied Projects (5)
KINNEAR CENTRE 208	E10:	International Collaborative Workshop (1)
KINNEAR CENTRE 210	E11:	International Collaborative Workshop (2)
KINNEAR CENTRE 308	E12:	International Collaborative Workshop (3)

2:15pm to 2:45pm	BREAK

2:45pm to 3:00pm **KINNEAR CENTRE 101**	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 **KINNEAR CENTRE 101**	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. Zaiane 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. Zaiane 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 ZAÏANE**, Scientific Director, Alberta Machine Intelligence Institute, University of Alberta

6:00pm **MOUNTVIEW BARBECUE**	IPDLN MountView Social

FRIDAY, SEPTEMBER 14, 2018

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**

MAX BELL 251	F1:	Advanced Analytics
KINNEAR CENTRE 301	F2:	Social Determinant of Health and Cross-Sectoral Data Linkage (1)
KINNEAR CENTRE 303	F3:	Social Determinant of Health and Cross-Sectoral Data Linkage (2)
MAX BELL 252	F4:	Data and Linkage Quality (1)
MAX BELL 253	F5:	Data and Linkage Quality (2)
KINNEAR CENTRE 204	F6:	Applied Projects (1)
KINNEAR CENTRE 206	F7:	Applied Projects (2)
KINNEAR CENTRE 208	F8:	Applied Projects (3)
KINNEAR CENTRE 210	F9:	Applied Projects (4)
KINNEAR CENTRE 308	F10:	International Collaborative Workshop (1)
KINNEAR CENTRE 201	F11:	International Collaborative Workshop (2)
KINNEAR CENTRE 310	F12:	International Collaborative Workshop (3)

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

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**