

# The LIDIC Hackathon: Linked Data Innovation Challenge

PRE-CONFERENCE WORKSHOP: INTERNATIONAL POPULATION DATA  
LINKAGE NETWORK MEETING

SEPTEMBER 11, 2018



## Mentoring Team

- Lisa Lix, University of Manitoba, Canada
- Claudian Sanmartin, Statistics Canada
- Dan Sanai, IBM

## Format for Today

- Ask questions about the data and analytic approaches
- Work in small groups – define question, analysis, presentation goals
- Connect at about 3:30 and have a break: what are key learnings and questions
- Confirm presentations on Friday morning: 8:30 time slot

# Objectives

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

# EMERGENCY WAIT TIMES

The bottlenecks in Winnipeg's Emergency Departments (EDs)

- Emphasizes effect size on ED wait times

## INTAKE FACTORS

**44%** Low Urgency  
eg. ear pain

**38%** Medium Urgency  
eg. shortness of breath

**16%** High Urgency  
eg. sudden sharp chest pain

**1%** Very High Urgency  
eg. not breathing

**610** Patients seen in ED

**1185** Patients served by ambulance

**1 in 10** patients leave without seeing a doctor

**MYTH**  
"Long ED waits are due to the high volume of people in Winnipeg EDs or any given time"

**FACT** **Small Effect**  
High volumes of less urgent patients in the ED have very **little** impact on the wait times of patients with higher urgency concerns.

**RECOMMENDATIONS**  
**Have A More Informed Discussion About ED Patients**  
While it is true that less urgent patients only have a small impact on the ED wait times of others, we still need to focus on finding better and more cost-effective ways to care for these people.

## ED FACTORS

**Diagnosis**  
Doctor sees the patient and determines course of action

**Testing patients**  
"The process of ordering, performing, and reviewing test results involves many steps and can be very time consuming"

Patients receive some type of diagnostic test during **52%** of ED visits

Patients are discharged home after **34%** of ED visits

**MYTH**  
"ED processes have little to do with waiting times"

**FACT** **Largest Effect**  
The number and type of diagnostic tests performed has the **largest** impact on wait times in the ED.

**EMERGENCY ENTRANCE**

**ADMITTED TO HOSPITAL**

## HOSPITAL FACTORS

**12%** of ED visits result in patients being admitted to hospital

**MYTH**  
"Hospital beds are full. All of patients waiting for a care home or to be discharged, which in turn lengthens ED wait times"

**FACT** **Modest effect**  
For 21% of patients, the time it takes to get from the ED to the hospital is critical to how full the hospital is or to the number of patients waiting for PCH beds.

**RECOMMENDATIONS**  
**Gain a Better Understanding of Hospital Transitions**  
We need to work with providers to better understand transition processes.

## CHARACTERISTICS OF MANITOBA'S CHILDREN IN CARE

CHILDREN WHO HAVE EVER BEEN IN CARE BEFORE AGE 15



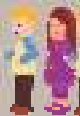
**1.7%** OF ALL  
NON-INDIGENOUS CHILDREN



**22.4%** OF ALL  
FIRST NATIONS CHILDREN



**10,293** Children in Care, 2014  
**87%** INDIGENOUS

 **33%** OF CHILDREN ENTER INTO CARE AT LESS THAN 1 YEAR OF AGE  
  **1/4** OF THOSE KIDS STAY IN CARE > 12 YEARS

**11%** DEVELOPMENTAL DISABILITIES  
such as Autism, Cognitive Impairment & FASD

**32%** MENTAL DISORDERS  
such as ADHD & Mood Disorders

### BIRTH MOTHER

**41%** UNDER 18 AT FIRST BIRTH

**13%** REPORTED ALCOHOL OR  
DRUG USE DURING PREGNANCY

To view the full report please visit:

<http://www.wcs.ca/indigenous/children-in-care>

## Suggestions to Achieve Goals

- Divide tasks amongst team members and assess team strengths
- Narrow question focus
- Analytic tools: Use a combination of previously-used and new (to you) techniques
- Mentorship team members are here to help!