

Measuring Risk in Peterborough

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Abstract

Unintentional injury is the leading cause of death and injury in children and youth in Canada. The Peterborough Risk Watch Network aims to reduce the rate and prevalence of injury for children and youth in the city and county of Peterborough, Ontario. The project aims to locate local injury data sources and create a rubric tool that will be used to evaluate the injury data sources for their potential applicability with injury prevention initiatives. The project involves an environmental scan, personal discussions, and the creation of a rubric assessment tool. The environmental scan involves looking for organizations that deal with children and youth in Peterborough and to see if they possess injury information. The number of injury data sources pertaining to Peterborough children and youth is limited. The rubric assessment tool developed is digital and user friendly. The data sources' usefulness is limited based on the type of information contained does not go into great detail. The future recommendations based on the project outcomes are to investigate a greater variety of organizations for injury data, ensure a greater breakdown of data once collected, and the creation of a centralized child and youth injury data system.

Key Words: Peterborough, injury, youth, children, risk, rubric, assessment, data

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Key Terms

Accessibility: Format injury data information is collected and displayed (digitally, hard copy, vocally, etc.)

Availability: How individuals can access the information and whether or not it requires special permissions to collect and review the data

Child: a young human below the age of puberty, under 13 years old

Data: factual information, measurements, or statistics, used as a basis for reasoning, discussion, or calculation

Injury: receiving physical damage or discomfort resulting from being subjected to a force that cannot be tolerated by the body

MCYS: Ontario Ministry of Child and Youth Services

MOHLTC: Ontario Ministry of Health and Long Term Care

NACRS: National Ambulatory Care Reporting System

OHIP: Ontario Health Insurance Plan

OHIP Codes: Codes used by healthcare professionals when inputting an injury or ailment into a digital records system, ICD10 codes are used for hospital admissions

OIPRC: Ontario Injury Prevention Resource Centre

PCCHU: Peterborough County City Health Unit

PKIDS: Peterborough Kids Injury Data System, reporting system for injuries for individuals 19 years old or younger

PAIDS: Peterborough Adult Injury Data System, injury reporting system for individuals 20 years or older

PRWN: Peterborough Risk Watch Network, host organization

Risk: the potential for loss, harm, or danger

Rubric: Assessment tool that was designed and used for analysis of injury data sources consisting of checkboxes, open-ended questions, and overall scale of usefulness

WSIB: Workplace Safety Insurance Board

Youth: a young human between the ages of puberty and maturity, 13-19 years old

Introduction

In Canada, unintentional injuries are the leading cause of death for children, youth, and individuals under 44 years of age (1). An unintentional injury is defined as the act of receiving physical damage resulting from being subjected to a force that cannot be tolerated by the body without consent prior to the event (1). In contrast, an intentional injury is an injury resulting from suicide, self-harm, or violence (2). Unintentional injury is one of the major causes of hospitalization for individuals in Canada, especially for children and youth who are living in rural communities (1). Between 1994 and 2003, more than 350 Canadian children under the age of 14 died from injuries that had occurred unintentionally and more than 25,000 were admitted to hospital for similar causes (1).

Injury is caused by a number of risk factors. Some of these factors include lack of education programs, improperly manufactured sports and playground equipment, lack of supervision, and unenforced regulations for the use of protective equipment for sports (3). Education programs that are implemented in schools can raise awareness of the potential for injury that can be incurred by youth and children (4). Properly manufactured and constructed sport and playground equipment would ensure that a duty of care was shown for the prevention of unintentional injuries (5). Supervision of individuals at play or at risk of sustaining an injury could prevent the injury by ensuring that persons are not exposing themselves to unneeded risks (5). Enforced safety regulations for the use of safety equipment could prevent the injury should an accident occur that would have normally caused intolerable, physical damage (3). With proper planning and implementing of safety programs, the risk of injury may be mitigated.

In 1997, Peterborough was selected to be a Champion Community by the Ontario Fire Marshal's Office. The local Peterborough Risk Watch organization piloted a school-based Risk Watch Safety Program in two schools in Peterborough County, Ontario (6). In 2003, the Peterborough Risk Watch Network's school-based programs were in every classroom in 43 schools in the city and county of Peterborough, Ontario (6). The Peterborough Risk Watch Network (PRWN)

is a collaboration of many organizations that deal with injuries and health with a focus on children and youth. These community organizations came together to create injury prevention programs for youth in Peterborough city and county. PRWN created these programs as a unified front against youth injury instead of multiple organizations creating similar plans for the same injury prevention goal. PRWN collaborates with organizations such as but not limited to: the Peterborough City Fire Department, B!KE: The Peterborough Community Cycling Hub, the Ontario Provincial Police, the Peterborough County City Health Unit, the Peterborough Family Resource Centre, the Peterborough Police Service, and the Otonabee Regional Conservation Authority (6). The Peterborough Risk Watch Network promotes injury prevention through school-based and public education programs.

PRWN focuses on many different types of injury affecting children and youth of Peterborough city and county. PRWN provides injury prevention education programs related but not limited to cycling skills, burn safety, fire safety, water safety, motor vehicle safety, electrical awareness, drug and alcohol awareness, choking/suffocation prevention, fall prevention, cyber safety, poisoning, pedestrian safety, bus safety and firearm safety (6). These programs and initiatives are delivered to the community through school education, after school programs, special events in the community, camps, and others as deemed appropriate by PRWN's partner organizations. PRWN also uses media and social media to communicate with residents for upcoming events and identifying local risk hot spots (6). PRWN is a leading injury prevention organization, which provides support for initiatives or activities such as environmental adjustment, and infrastructure developments that create safe, healthy communities within Peterborough city and county.

The Peterborough Risk Watch Network has tackled many causes of youth and child injury since 2003. A few of these projects have been sustained since the inception of the program. These programs include Swim to Survive, helmet campaigns, and Bike Rodeos. The Swim to Survive program gives students in elementary schools the opportunity to learn about water safety and participate in swimming lessons (7). The program is implemented in collaboration with the

Lifesaving Society of Canada. The helmet campaigns occur throughout the year at various community events and public recreation centres. Some of these include public skating afternoons at Peterborough community arenas and Professional Activity Day events throughout Peterborough (8). The Bike Rodeos that are implemented by PRWN and B!KE: The Peterborough Community Cycling Hub are designed to teach children and youth about cycling skills and safety (9). The programs created and implemented by PRWN have worked to decrease the injury rates of youth in Peterborough.

The risk of injury may be mitigated by various techniques if the sources and causes of injury are known. PRWN, while working with Parachute Canada, created the present project to identify and evaluate the sources of local injury data. Parachute Canada is a national charitable organization founded in July 2012 that focuses on injury prevention. Parachute Canada is a coalition of previously separate injury prevention organizations such as Safe Communities Canada, Safe Kids Canada, SMARTRISK, and ThinkFast Canada (10). The focus of the present project is not to analyze the data that will be collected for the rates of injuries occurring to children and youth, but to locate and determine the usefulness of the data sources. The present project will provide PRWN with the ability to evaluate their injury prevention programs for efficacy and determine the need to develop new programs. Since unintentional injuries are the leading cause of hospitalization and death to children and youth in Canada, being able to track the efficacy of injury prevention programs may lead to a greater mitigation of the risk of future injury.

In order for the data sources to be collected and analyzed for their usefulness, four research questions must be addressed. These questions will show PRWN where to look for future injury data and how to evaluate if it will be useful to their programs in the future.

1. Which data sets are most useful for understanding and addressing community safety issues and how to access them?
2. What is the availability of injury data sources in Peterborough city and county?

3. Which sets of data will aid in the evaluation of the Peterborough Risk Watch Network's current programs?
4. What form of rubric would best aid in the assessment of injury data sources in Peterborough city and county for their relevance to children and youth?

The first question will aid PRWN to locate source of useful data in the future for analysis.

The second question helps to identify the types of obstacles PRWN will need to overcome to access the data for injury analysis. For the third question, I am looking for the demographics of the data, types of injuries included, age of the data, and how detailed the source is in its representation of the injury data. The fourth and final question pertains to the assessment tool that I will be developing for PRWN for present and future analyses. The rubric assessment tool will be used to expedite the process of data collection and analysis. The four research questions will allow me to focus my research on the type of source, the obstacles to get the information, and how to easily analyze the usefulness of the source.

Methods

The methods used include an environmental scan, data collection, and rubric analysis tool creation. The information being collected for the project is qualitative. The qualitative aspect of the project involves the assessment of the accessibility and availability of the sources. It also involves the qualitative assessment of the usefulness of the source's data. Along with the data source itself, locating the organizations and individuals that have collected the data is a priority. Although the injury data being collected is quantitative, the focus for the present project is not to analyze the data but to locate and collect it in order to assess each source's usefulness to PRWN and its programming.

Environmental Scan and Injury Data Collection

The environmental scan and data collection was conducted through interviews, discussions, email correspondence, and in-depth internet scans and searches. To get a sense of the project and what was to be expected I met with my host supervisor, Tegan Moss, on September 5, 2014. The early goals of the project were to determine the desired overall outcome, become familiar with the host organization, Peterborough Risk Watch Network, and their program goals. I attended a meeting with PRWN on September 17, 2014 to become familiar with the organization's project goals as well as to obtain contact information for the organization's members. Following the meeting, I began my internet scan for information pertaining to the demographic information for the population of interest in the project. The scan was done using websites that would contain information regarding the age, sex, and population distribution of individuals in Peterborough city and county, including the individual Townships.

After collecting detailed demographic information for the project, I met with Mr. Andrew Kurc, an epidemiologist with the Peterborough County City Health Unit (PCCHU). I met and consulted with Mr. Kurc on October 6, 2014 to discuss the possible sources of injury data for

Peterborough city and county (12). In the meeting with Mr. Kurc and Ms. Paula Mattie, a PCCHU PRWN member, I learned that there is a data collection system in Canada for hospital admissions that could be useful to the project (12). The hospital admission system is called the National Ambulatory Care Reporting System (NACRS). While speaking with Mr. Kurc and Ms. Mattie, we determined that the best date to go back to for past injury data would be 2003. The decision to go back to 2003 was based on the year that PRWN began implementing injury prevention programs in schools.

After speaking with Mr. Kurc and Ms. Mattie, I spoke with Dr. John Marris, from the Trent Community Research Centre. I spoke with Dr. Marris to gain his perspective on the project and what knowledge, information, and contacts he could provide me with while in pursuit of the injury data for the project (13). I first met with Dr. Marris on October 30, 2014 and he gave me a previous student project from Kawartha Lakes to help me determine the type and location of the injury data information I was seeking (13). While speaking with Dr. Marris, I came up with the idea to create and send out an email to various organizations that may possess information that would help my research.

Following the meeting with Dr. Marris, I began to draft a generic e-mail to be sent out to organizations that may possess injury data. The information acquisition e-mail stated that I was:

- A fourth year student at Trent University
- Conducting a research project on behalf of the Peterborough Risk Watch Network
- The age demographic that I was looking into
- The types of injuries I was interested in, and
- The geographical location under investigation.

I chose e-mail as the method of communication because it was the fastest and easiest way to get in contact with all the individuals and organizations I desired. Email also gave all contacts an opportunity to reply in a timely manner and the ability to offer alternative methods of communication

if they were required. The organizations that I contacted were selected based on a number of criteria. These criterion were:

- Organization's involvement with youth
- Healthcare sector
- Trauma care
- Frontline organizations dealing with injuries
- Provincial, municipal, or federal jurisdiction
- PRWN-made contacts, or member organizations
- Organizations that could direct my research to other organizations that would have information
- Involvement with injury in any aspect including, but not limited to, insurance claims, incident reports, statistics

The e-mail was sent out on November 11, 2014 after Dr. Marris, Ms. Moss, and Ms. Sharon Beaucage-Johnson, my Trent University supervisor, approved it. I sent the e-mail to many individuals and organizations throughout Peterborough city and county, and Ontario. A draft of the information acquisition letter can be found in Appendix A. The list of organizations that were contacted can be found in Appendix B.

Originally I had requested that these individuals and organizations reply by November 26, 2014. Many of the organizations contacted were able to reply by that date, however, I did extend the date to December 17, 2014. I sent out a reminder email to the organizations that did not reply, stating that the last date to send in any data or information that may be of use in my research project was January 25, 2015. I found that many of these organizations were unable to help with the project due to confidentiality reasons or not possessing the information that was requested. There were also quite a few that did not respond at all to any of the emails sent.

Along with sending and receiving emails from the various organizations, I made telephone calls to organizations that requested the transfer of information in that manner. The organizations I was in contact with over the telephone were the Ministry of Child and Youth Services (MCYS), the Ministry of Health and Long Term Care (MOHLTC), and the Peterborough Member of Provincial Parliament (MPP) (14, 15, 16). These organizations and individuals provided me with both useable and unusable information. The MCYS was unable to provide me with any quantitative data but was able to provide me with the names of individuals that I should contact within other organizations such as the MOHLTC (14). The MOHLTC was in contact with me to clarify the type of information I was seeking for the project, who would have access to it, and what it would be used for (15). I contacted the Peterborough MPP's office to set up a meeting to discuss what the MPP knew about injury sources and occurrences of injury for youth in the riding. The Peterborough MPP's office was unable to set up a meeting with me at the present time, so unfortunately I did not get any input from the MPP.

During the period of time while I was waiting for email responses from these organizations, I had meetings with Ms. Moss and Ms. Beaucage-Johnson. I met with Ms. Moss on November 27, 2014 to discuss my progress with the project and if I had any concerns regarding my progress (17). I also met with her to discuss my initial presentation for my Trent University course and any feedback regarding my presentation (17). Following the meeting, alterations were made to the project to improve its usefulness. Ms. Moss also gave me some potential contacts and sources of injury information that I could explore.

On December 17, 2014 I attended PRWN monthly meeting to provide PRWN with my progress with the project and the projected outcomes and obstacles that I would need to overcome in the following three months (18). Following PRWN meeting, I contacted Ms. Moss, Ms. Mattie, and the other members of PRWN with a draft of my assessment tool in early January 2015.

Rubric Tool Development

After I sent out the injury data acquisition email to the many organizations I began to develop the injury data source assessment tool. The type of assessment tool that was developed was in the form of a rubric consisting of checkboxes, open-ended questions, and graded scale for overall usefulness. The rubric was desired by the Peterborough Risk Watch Network to expedite future injury data research and analysis. PRWN desired a reference document that could be used and accessed in the future to create programs and address safety concerns for the city and county of Peterborough. The rubric needed to be in a form that was easily accessible, readily available, and easy to understand and fill out.

For the rubric tool to be useful it needed to contain a number of different categories that can assess and describe the injury data source and the information it provides. The categories that the rubric contained were developed from consulting PRWN, Ms. Moss, Mr. Kurc, Dr. Marris, Ms. Beaucage-Johnson, and various digital sources. These categories initially included:

- Age of the data
- Age of subjects
- If the data can identify individuals
- Injury types included in the source
- Geographic location of data
- If the data is easily accessible
- What format the data is in when accessed
- How often the data is collected

The format and content of the rubric tool was developed through conversations with PRWN, Mr. Kurc, and an expansive internet search of other injury prevention program assessment tools.

While conducting the internet search, I found a couple of very useful documents and websites. The

Ministry of Health Promotion had created a similar project in 2010 to provide education on concepts and resources available for health promotion planning (3). The document includes information on injury prevention techniques and program assessment strategies. Another useful piece of information that I collected on my search through the internet was from the British Columbia Injury Research and Prevention Unit. The organization is focused on preventing youth injury and promoting risk mitigation (19). Using these online sources, as well as PRWN's input, I created the rubric tool. The first draft of the tool can be found in Appendix C.

After meeting with PRWN in December 2014, I made some changes to the rubric tool. These changes included the modification of the structure, the program that the rubric would be used with on a computer, and the overall look of the rubric. The rubric tool was then sent to Dr. Marris, Ms. Beaucage-Johnson, Ms. Moss, and PRWN members for approval and revision on January 16, 2015. Following the revision, I began my assessment of the data sources that had been collected to test the effectiveness of the rubric and learn what was missing from the data sources. While assessing the sources, I made further changes to the rubric. When I had completed my assessments, I made the final modification to the rubric tool. The final round of revisions included the addition of new criteria and categories such as:

- Gender of individuals
- If the data source specifies OHIP codes
- If the data has been analyzed and contains graphical representations of the information
- The type of format or file type the dataset was
- If the data source had been previously consulted for projects by PRWN
- If the data in the source matches any other collected sources of data

The rubric tool was finalized on March 18, 2015. The final version of the rubric tool can be found in Appendix D. The rubric tool was then used to assess the usefulness of the data sources that

had been collected and submitted by March 12, 2015. A summary of the findings can be found in Appendix E and F.

Results

To best understand the data sets that were collected for the project, the demographic of the project subjects needed to be well understood. The demographic information gives weight to the injury data by comparing the injury data results to the overall population to determine if the results are significant. In **Table 1**, the demographic information for the city and county of Peterborough are illustrated. The number of individuals, the gender breakdown, the age breakdown, the average household income, number of households, and the location of the individuals in the county and city may also be seen. The breakdown for each township may be seen in Appendix G. The demographic data was collected from the Peterborough city and county information website.

Table 1. Peterborough city and county demographics as of September 24, 2014

Location	Total Population	Number of Households	Average Household Income (\$)	Age (years)	Number of Male Individuals	Number of Female Individuals	Total Number of Individuals
City of Peterborough	139 567	58 360	76 581	0-4	3 245	3 208	6 454
				5-9	3 251	3 178	6 429
				10-14	3 389	3 142	6 531
				15-19	4 037	3 940	7 978
County of Peterborough	82 705	35 556	70 131	0-4	2 147	2 123	4 270
				5-9	1 996	1 967	3 963
				10-14	1 983	1 845	3 829
				15-19	2 371	2 300	4 671

The number of data sources that were collected for the project was five. The in-depth assessment of the sources for accessibility, availability, and usefulness can be found in Appendix E. These analyses are the product of the application of the rubric assessment tool that was developed as part of the project. The injury data sources that were collected and analyzed were “Ontario Injury Data Report for Peterborough” by OIPRC, the WSIB “By the Numbers: 2013 Statistical Report” Schedules 1 and

2, the “Community Assessment Report 2010” by PCCHU, and the NACRS database for 2003-2012 for OHIP ICD10 codes. The OHIP ICD10 codes can be found in Appendix H.

Accessibility of Data Sources

The accessibility of the sources of injury data allowed the information to be easily obtained. The information that the data sources possessed was all digitized so it could easily be transferred to other individuals and organizations. The information could be readily downloaded from the internet and analyzed. I found that the most useful sources were the NACRS database for 2003-2012 and the Ontario Injury Data Report for Peterborough by OIPRC.

Availability of Data Sources

Many of the injury data sources that were collected for the project were readily and easily available. Although, a few required further permissions to obtain the injury data required for the project. The NACRS database required ministry training to access the information contained within the database. The other four sources were public information and found on the organization’s websites.

Aiding and Evaluating Current Programs

The injury data that was collected for the project can be used for the evaluation of current programs and for the creation of new programs. The data sources that were collected contained a wide range in the amounts of injury data they possessed. The amount of injury data that pertained to the demographic of interest was a key factor in whether or not the source will be useful. Overall, the sources were very detailed in the information provided, but not all of the information was pertaining to injuries of children and youth less than 19 years of age.

Rubric Creation

The rubric that was created for the project was a checklist that contained both open and closed-ended questions and criteria. The rubric assessment tool was created in a digital format that can easily be converted into a paper copy and used by hand. The rubric was created as a checklist that contained both open and closed ended questions with the option for additional information. The rubric also included the name of the injury data source, the date that it was accessed, the name of the contact person or organization that the information was received from, and the title of the digital data file or the website URL for online access. The finalized rubric tool can be seen in Appendix C.

Discussion

Injuries can occur to anyone at anytime and may be caused unintentionally or intentionally. The focus of PRWN is to decrease the frequency of unintentional injuries in the city and county of Peterborough, Ontario. The present research project's goals were to locate, identify, and evaluate injury data sources that pertained to individuals less than 19 years of age living in the city and county of Peterborough, Ontario. By locating injury data sources it will allow PRWN to create and evaluate their injury prevention programs and initiatives. Having the ability to assess and evaluate an injury prevention program cannot only improve the program itself but it can increase the awareness of unintentional injuries and decrease the rate of injury occurrences. An overall summary of the project findings can be found in Appendix I.

Accessibility of Data Sources

The results that were gathered throughout the present project were qualitative with respect to the research questions but quantitative in the type of information the sources possessed. With respect to the first research question regarding which of the data sets collected are the most useful for understanding and addressing community safety and their accessibility, the results are quite limited. Upon assessment, I found that the most useful source was the NACRS database for 2003-2012. Although the other sources did have adequate amounts of information, the type of information that they possessed was either not specific enough or did not contain the entire demographic of interest. The other source that may prove to be useful for understanding and addressing community injury concerns is the Ontario Injury Data Report for Peterborough by OIPRC. The OIPRC report may be useful since the data is broken down into categories that make analysis easy. The report's data is separated by age range, gender, and type of injury sustained. The OIPRC report does not explain how the injury was sustained or when the injury occurred within the timeframe of data collection. From

conducting the present research project, the data sets that may prove to be useful for future analysis are the NACRS database and the OIPRC report on injury data in Peterborough.

The data sources that were collected for the project proved to be easy to access. The accessibility of the injury data information was of great ease because it was all digitized. The records and information that I was seeking had been put into a computer system or previously analyzed, which made accessing them much easier than anticipated. None of the sources that were located during the research process were only in hard paper copies, however, they could be in paper copies at the organization's main office. These five sources were more easily accessible for the present project than originally anticipated.

Availability of Data Sources

The second portion of the project, along with determining the usefulness of data sources, is to determine the availability of these and other potential sources in Peterborough, Ontario. Four of the five data sources, which were collected, were accessible by the general public. The injury data was available on the organization's website. The sources were not easily found on the websites and required email contact with the organization to locate the information within the website. The one source that did require a more in depth process to get to the information was the NACRS data source. The injury data information obtained from NACRS was accessed by Mr. Kurc, an epidemiologist working with PCCHU, in October 2014. The NACRS injury data is not accessible to the general public. It requires someone who has been trained by the ministry in a three-day course in Toronto to access the data. Along with the training, to be able to review the data, a confidentiality agreement must be signed and agreed upon by the reviewer and PCCHU. The confidentiality agreement states that the information will not be shared with other parties and the information provided would not be used to identify individuals, since the NACRS database can be used to identify individuals based on hospital admissions records. Another source that proved to be difficult to get information from was

the Ministry of Health and Long Term Care (MOHLTC). The MOHLTC required a lengthy application and in depth answers to receive any information. The timeline for applying, consultation, and receiving information proved to be a longer process than I had originally anticipated. The availability of injury data information regarding children and youth less than 19 years of age in Peterborough city and county is very limited.

Aiding and Evaluating Current Programs

The third research question that the project was investigating was determining which of the collected sets of data would help PRWN evaluate their current and future program plans. Of the five collected injury data sources, the only two sources that may prove to be useful for the evaluation of current and future programs by PRWN are the NACRS data from 2003-2012 and the Ontario Injury Data Report for Peterborough by OIPRC. These two sources contained the most relevant information such as age breakdowns, geography, and type of injury sustained by the individuals. The NACRS data source contains injury information that spans from the year that PRWN was created and their programs were implemented. The injury data will allow PRWN to evaluate their program efficacy of decreasing injuries in different sectors, since the implementation of their various programs and initiatives. The OIPRC data source will also help with the program efficacy analysis as well. Along with looking at program efficacy, PRWN can look at trends in child and youth injury and target future programs toward the increasing injury sectors. These two injury data sources will help PRWN in their program creation and evaluation.

Rubric Creation

The final aspect of the project was to determine the design of the rubric tool that would be most effective in assessing and evaluating injury data sources for their relevance to children and youth in Peterborough city and county. The format that would best suit the needs of PRWN and community would be a digital product that could become a hard, paper copy if needed for analyses.

The digital format was the superior version of the rubric because it allowed for easy modification, if this was needed in the future, as well as it can be shared between individuals and organizations through online communications such as email and digital file transfers. Being digital, the rubric allows for analysts to more easily compile information and analyses of digital injury data sets. An accessible, digital format of the rubric tool was developed for the present project as the superior format for the intended use and target population of analysts.

Recommendations

With the present project, recommendations for injury data collection and analysis for Peterborough, Ontario children and youth will be important for future injury prevention. The recommendations that have been developed that pertain to the present project are:

1. Injury prevention program creation, evaluation, and implementation using available and collected data sets
2. Look into a wider variety of injury data source organizations
3. Further breakdown of OHIP codes when using the NACRS database
4. Creation of a central injury data information hub for the city and county of Peterborough:
PKIDS and PAIDS

These recommendations will be explored further below.

1. Injury prevention program creation, evaluation, and implementation using available and collected injury data sets

Creating, evaluating, and implementing injury prevention programs in Peterborough are main goals for PRWN. With the data sets that have been collected, only two may prove to be useful for program evaluation and creation. The data sources that would be the most useful are the NACRS and OADR data sets. These sources show the age demographics specific to the type of injury that is occurring. Although they differentiate the ages of the individuals, both of the data sets are limited

with their usefulness. They do not describe the location of the injury, the type of injury that occurred, or the time of year the injury took place on. Using these data sets could be useful in identifying trends in injury occurrence by cause and age but will not allow for more in-depth correlations to be made. Further data collection needs to be done to ensure effective and accurate programming for PRWN.

2. Wider variety of injury data source investigation

To improve the injury data collection process, many more and varied organizations need to be contacted. The organizations should also be contacted repeatedly, to ensure that they are aware of the potential implications of the research, such as the implementation of more effective injury prevention programs. The organizations, which should be contacted in future to expand the injury data source list, are, but not limited to:

- Peterborough Safe Communities Coalition
- Peterborough Youth Services
- Share the Road Cycling Coalition
- Tri-County Emergency Communications Committee
- City of Peterborough: Parks, Recreation, and Leisure
- Arson Prevention Program for Children
- Discharge Abstract Database (DAD)
- Kawartha Pine Ridge District School Board
- Peterborough-Victoria-Northumberland-Clarington Catholic District School Board
- Day Care Centres in Peterborough
- Afterschool Program organizations in Peterborough
- Day and Summer Camps
- Peterborough Youth Groups
- Sports Associations
- Insurance Companies
- Family Physician Teams

The listed sources would be useful for future research because they are involved with children and youth on a daily basis. Children and youth are injured daily and any type of record that is made about their injuries may be useful for creating programs to prevent future injuries. The list may require further research to determine the specific organizations that are involved with the desired demographic.

3. Breakdown OHIP codes for NACRS database use

The NACRS database is a very large database of information that would be useful for future program creation. The categories that were used in the collected data file were too broad for any critical analysis. If the OHIP ICD10 codes were broken down into individual codes or smaller groups, the database may be more useful. The current data file for 2003-2012 had grouped OHIP codes together, into categories that contained upwards of ten different codes. OHIP categories such as “Pedestrian injured in transport accident” and “Exposure to inanimate mechanical forces” do not lend themselves easily for analysis because they include upwards of ten different causes of the incident. The causes for the former OHIP category includes an accident with a pedal vehicle, two or three-wheeled vehicle, car/truck/van, heavy transport vehicle/bus, train/railway vehicle, other non-motor vehicle (animal-drawn, animal being ridden, streetcar, etc.), and other/unspecified traffic accident. The list for the latter OHIP category includes 29 different causes of injury. If the OHIP categories were broken down into smaller, more manageable groups based on similar causes of injury for the overriding type of injury the NACRS database would be more easily understood and analyzed in the future.

4. Creation of injury data information hub: PKIDS and PAIDS

While investigating injury data sources for the city and county of Peterborough, Ontario, it came to my attention that there is currently no organized system of injury data collection in place, for the city or the county. When I contacted organizations in Peterborough, which I believed would have

injury data information, I was often told they did not possess the type of information I was looking for, or they would not give it to me. The most optimal solution to remedy the situation would be to create a central information hub for injury data collected for the city and county.

The information system would be called Peterborough Kids Injury Data System (PKIDS). PKIDS deals with individuals 19 years old or younger. Additionally, a second data source could be created Peterborough Adult Injury Data System (PAIDS). Ideally the information centre would be located and stored at a major organization such as the Peterborough Police Service, the Peterborough Fire Department, or the Peterborough County City Health Unit. The organizations themselves would not collect all the information but would be responsible for compiling the data and formatting it into a user-friendly format that is easily accessible. The information would be available for the general public and organizations, which have an interest in injury data for Peterborough, Ontario. The injury data would be in an anonymous format that would not include personal identifiers, which allows individuals to maintain their privacy. The data should be collected on an annual or semi-annual basis. This frequency allows for constant monitoring of the population and allows for seasonal changes or other factors to be inferred causes of injury.

Along with having the city and county as categories for location, townships should also participate. The township fire departments should keep records of injuries that are reported to them and then add them to the countywide injury data information system. These recommendations for PKIDS and PAIDS should also be explored further, as a research project to determine what format works best, compare the current ideas for the system to other communities that have implemented a similar program, or have tried and been unsuccessful, and to determine where the information sources will come from to be inputted into the database.

Limitations of Research

Vulnerable Population

Throughout the project, many organizations, which were contacted, did not provide any information that could assist with the project. A factor that could have led to the organization's lack of either providing information, or having any data at all, is that the demographic of interest was a vulnerable sector. Children and youth are seen in Canada as a vulnerable sector of the population (11). A vulnerable sector of the population is defined as "persons who, because of age, disability, or other circumstances, whether temporary or permanent are in a position of dependence on others or are otherwise at a greater risk than the general population of being harmed by a person in a position of authority or trust relative to them" (20). The definition includes children and youth because they have not developed decision-making skills and competencies. Along with being a vulnerable sector of the population, children and youth are under the age of majority. Being under the age of majority allows children and youth to have their privacy upheld for all aspects of life. The privacy and confidentiality of children and youth protects them from being identified and used inappropriately by the public. It makes sense why organizations would not readily produce information that is easily accessible or readily available for the general public, but if there are no personal identifiers in the data it should not be as big of a concern.

Injury Data Collection Frequency

Along with individuals of interest being a part of a vulnerable sector of the population at large, another factor that limits the research that has been done, is the collection frequency of the data. The injury data sources that were located during the project had collection and compilation frequencies of an annual or less frequent rate. Collecting injury data for a span of five years does not describe the trends of injury for the population because it does not describe which years had higher rates than others, if there was environmental or socioeconomic factors, and the geographic

distribution of the injuries. Injury data should be collected and reported in greater frequencies than it is.

Injury Data Limitations

The injury data itself has limitations to its usefulness for PRWN program evaluation and creation process. The injury data that has been collected for the present project is missing a large amount of important information. None of the data sources include the geographic location of where the injury took place. Without the knowledge of where the injury occurred, location targeted programs cannot be created. The data sources also do not include the type of injury sustained by the individuals. The anatomic location and type of injury would allow PRWN to target programs towards preventing certain injuries such as head, neck, and wrist injuries. The data sources also do not include the time of day or the time of year that the injury took place. If the timing of the injury incident was recorded, programs could be developed to prevent the types of injuries occurring at night or in poor lighting, if that is what the data showed. The injury data sources do not show the mechanism or the main cause of the injury. By showing and explaining exactly how an injury was sustained, injury data could provide insight into the incidence rate of the injury mechanism and could lead to future programming changes in the community.

The injury data is not a complete representation of all the injuries occurring in Peterborough city and county. The data set is not complete because not everyone reports injuries. Along with non-reporting of injuries, misreporting of injuries and their causes is common as well. There are high numbers of injuries that do not require hospitalization or a visit to a family physician, so these injuries also go unreported. The current injury data sources that have been collected for the present research project have many limitations.

Injury Data Targeted Programming Limitations

The main goal of the present project was to determine if injury data sets could help target injury prevention programs for PRWN. The injury data sets that have been located and collected provide limited direction for future injury prevention programming. The injury data that has been collected is both subjective and limited in size. The NACRS data set is subjective with the information it contains. NACRS is the hospital admissions information from the Peterborough County City Hospital. A hospital emergency room and admissions can include individuals from Peterborough City and County, however, it may also admit individuals who are in the area and sustain an injury. The information is limited because it does not differentiate individuals who are residents of the city or county and those who are just travelling through or near the city. The OADR data set contains information based on the age of the individuals and the types of injury sustained, however, it is information that is not collected and published on a frequent basis and is presently over five years old. The information in the data set does not describe recent or present injury problems or trends for the City and County. The collected injury data sets are limited in their usefulness for injury prevention programming creation. If more data sets are collected in the future, the potential for using the injury data trends to create prevention programs is great. Currently, there is not enough specific information to create effective programming for PRWN.

PKIDS and PAIDS Limitations

With the conceptualization, development, and implementation of PKIDS and PAIDS for the city and county of Peterborough, Ontario, also come limitations that affect their effectiveness and usefulness. The major limitations and considerations for PKIDS and PAIDS are the location of the data, the funding required to pursue collection, the individuals responsible for collecting and analyzing the data, the funding required to employ these individuals, and the upkeep of the database. The location of the data should be kept easily accessible and available but should still require a valid

purpose and reason to access the information. The funding required to collect the injury data may increase based on if a reporting system is to be developed, if individuals are going into the community to find the injury statistics, or if a survey system is created it will need to be distributed and collected in some way. The number of individuals that will be responsible for collecting the data, compiling it, formatting it, and analyzing the data for future use will increase depending on the amount of data and size of the project. The more individuals employed to conduct the collection and analysis, the more it will cost to employ these individuals. The upkeep of the database will depend on the size and contents stored within it. The upkeep will also depend on whether or not it will involve paper copies of injury information. PKIDS and PAIDS could be very useful for the community but it will require further research on how to run and implement the initiatives.

The injury data that was collected for children and youth under 19 years old is minimally useful for the Peterborough Risk Watch Network's current and potential future programs. The injury data collected does not give the direct causes of the injuries but a broad umbrella term to group similar causes under one heading. The injury data also does not give specific incidents, time or year, or the type of injury that occurred to the individual, such as a broken wrist or concussion. The injury data collected can suggest injury trends for age groups and sex but cannot provide any strong correlation between the injuries and residents of Peterborough. Since anyone can go to the emergency room at the hospital the records are not specific enough to exclude individuals who are not permanent residents of Peterborough. Next steps for PRWN and project research are to contact more organizations, collect injury data annually, breakdown the collected information for easier analysis, and look into a more effective way to acquire and analyze injury data for children and youth in Peterborough. The injury data information collected for the project is limited in its usefulness for injury prevention program creation and modification.

Appendices

Appendix A: Information Acquisition Letter (November 11, 2014)

Good Afternoon **[Insert Title]**,

My name is Peyton Schroeder, I am a fourth year student in the Forensic Science Professional Program at Trent University. I am conducting a research project in cooperation with the Trent Center for Community Based Education and the Peterborough Risk Watch Network to determine the causes and types of injury that are occurring in Peterborough City and County. While reviewing/speaking with **[the website name/risk watch contact]** I found your name as someone who might aid me in my research. I am interested in speaking with you about how you could provide my project with collected injury information and data from **[Insert Region/Township/County Affiliation]**.

My research project involves the acquisition of filed data at a municipal, provincial, and national level. I am interested in accessing and retrieving the information that **[Insert Organization]** may possess. The data will be further analysed by a rubric tool that I have developed, which will help the Peterborough Risk Watch Network to create programs to prevent injury in Peterborough. I am looking for data that has been collected for individuals under 19 years old in Peterborough City and County, between the years of 2003 and 2014, the type of injury sustained, and the cause of the injury.

I would appreciate an opportunity to gain further information on the injuries occurring in Peterborough City and County and their causes. Please contact me at peytonschroeder@trentu.ca to discuss the potential information your organization may possess by November 26, 2014. I look forward to hearing from you. Thank you for your time and help.

Sincerely,

Peyton Schroeder

Peyton Schroeder

Appendix B: Organizations Contacted in November 2014 Injury Data Information Acquisition Attempt

- Peterborough Police Service
- Peterborough Family Resource Centre
- Peterborough County City Health Unit (PCCHU)
- Peterborough Emergency Medical Service
- Peterborough County Human Resources
- Ontario Waterpower Association
- Otonabee Region Conservation Authority
- Peterborough Fire Department
- Selwyn Fire Department
- Otonabee- South Monaghan Fire Department
- Asphodel Fire Department
- Cavan Monaghan Fire Department
- Douro Dummer Fire Department
- Galway-Cavendish-Harvey Fire Department
- Havelock-Belmont-Methuen Fire Department
- North Kawartha Fire Department
- Peterborough Member of Provincial Parliament
- Ministry of Health and Long Term Care (MOHTLC)
- Ministry of Education
- Ministry of Labour
- Ministry of Child and Youth Services (MCYS)
- Ministry of Health Promotion
- Public Health Ontario
- Ontario Injury Prevention Resource Centre (OIPRC)
- Parachute Canada
- Workplace Safety and Insurance Board (WSIB)

Appendix C: Rubric Tool Draft #1 (January 6, 2015)

Peterborough Risk Watch Network Injury Data Assessment Tool (January 6, 2015 edit)

Age of Individual: 0-6 years 7-13 years 14-19 years Unknown

Age of Data: < 1 year 1-3 years 3-5 years > 6 years Unknown

Location of Data: City County Township (if so, specify) Unknown

Data Presentation: Graph Chart Summary Comparative Raw Other

Previously Used For Analysis: Yes No Unknown

Accessibility: Only Digital Only Hard Copy Both Other

Availability: Organization Only Public Access Other

Personal Data: Personal Identifiers Pseudo-anonymized Anonymous

Collection Frequency: Annual Semi-annual Quarterly Monthly Weekly
 Unknown Other

Area of Focus (check all that apply):

- | | |
|---|--|
| <input type="checkbox"/> Falls | <input type="checkbox"/> Playground Safety |
| <input type="checkbox"/> Poisoning | <input type="checkbox"/> Electrical |
| <input type="checkbox"/> Bike and Pedestrian Hazard | <input type="checkbox"/> Drugs and Alcohol |
| <input type="checkbox"/> Choking, Suffocation, Strangulation | <input type="checkbox"/> Cyber-related |
| <input type="checkbox"/> Water Hazards | <input type="checkbox"/> Bus (school bus, city bus, etc) |
| <input type="checkbox"/> Motor Vehicle Accidents (car seats, seatbelts, etc.) | <input type="checkbox"/> Firearms |

Appendix D: Rubric Tool Final (March 18, 2015)

Peterborough Risk Watch Network Injury Data Assessment Tool

Peyton Schroeder, 2015



Name of Data Source:
Date Accessed:

Contact Person:
Data File/Website:

Overall Usefulness: (1- least, 10- most)

- 1 2 3 4 5 6 7 8 9 10

Age of Subjects

- 0-6 years
7-13 years
14-19 years
20+ years
Unknown

Sex of Subjects

- Male
Female
Unknown

Accessibility Format

- Only Digital
- Excel File
- Word Document
- PDF
- Internet Website
- Proprietary Software

Personal Data

- Personal Identifiers
Pseudo-anonymized
Anonymous

Area of Focus

- Falls
Poisoning
Bike and Pedestrian
Choking, Suffocation
Water Hazard
Water Sports
Motor Vehicle Accident
Playground
Electrical
Drugs
Alcohol
Cyber-related
Bus related
Firearms
Off-road Vehicle
Other (specify)

Only Paper

- Statistical Report
- Journal Article
- Newspaper
- Raw Collected Data
Both Digital and Paper
Other (specify)

Data Presentation

- Graph
Chart
Raw
Other (specify)

Previously Used for Analysis

- Yes
No
Unknown

Age of Dataset

- <1 years
1-3 years
3-5 years
> 6 years
Unknown

Matches a Previously Analysed Dataset

- Yes
No
Unknown

Collection Frequency

- Annual
Quarterly
Monthly
Other
Unknown

Contain OHIP Codes

- Yes
No
If yes, specify:

Availability

- Organization Only
Public Access
Information Request
Other

Geography of Data

- City of Peterborough
Peterborough County
Township (specify)
Other (specify)
Unknown

Notes:

Appendix E: Data Source Evaluation using Rubric Tool

National Ambulatory Care Reporting System

Peterborough Risk Watch Network Injury Data Assessment Tool

Peyton Schroeder, 2015

Name of Data Source: NACRS Database 2003-2012

Date Accessed: October 25, 2014

Contact Person: Andrew Kurc

Data File/Website: NACRS 2003-2012

Overall Usefulness: (1- least, 10- most)

1 2 3 4 5 6 7 8 9 10

Age of Subjects

0-6 years
 7-13 years
 14-19 years
 20+ years
 Unknown

Personal Data

Personal Identifiers
 Pseudo-anonymized
 Anonymous

Data Presentation

Graph
 Chart
 Raw
 Other (specify)

Age of Data

<1 years
 1-3 years
 3-5 years
 > 6 years
 Unknown

Collection Frequency

Annual
 Quarterly
 Monthly
 Other
 Unknown

Availability

Organization Only
 Public Access
 Information Request
 Other

Sex of Subjects

Male
 Female
 Unknown

Area of Focus

Falls
 Poisoning
 Bike and Pedestrian
 Choking, Suffocation
 Water Hazard
 Water Sports
 Motor Vehicle Accident
 Playground
 Electrical
 Drugs
 Alcohol
 Cyber-related
 Bus related
 Firearms
 Off-road Vehicle
 Other (specify)

Contain OHIP Codes

Yes
 No
 If yes, specify: ICD10 codes

Geography of Data

City of Peterborough
 Peterborough County
 Township (specify)
 Other (specify)
 Unknown

Accessibility Format

Only Digital
 - Excel File
 - Word Document
 - PDF
 - Internet Website
 - Proprietary Software
 Only Paper
 - Statistical Report
 - Journal Article
 - Newspaper
 - Raw Collected Data
 Both Digital and Paper
 Other (specify)

Previously Used for Analysis

Yes
 No
 Unknown

Matches a Previously Analysed Dataset

Yes
 No
 Unknown
 If yes (specify):

Notes:

- Does not specify location or type of injury sustained (further breakdown required)
 - Requires special permissions and confidentiality agreement to access or review



Ontario Injury Data Report for Peterborough 2013

Peterborough Risk Watch Network Injury Data Assessment Tool

Peyton Schroeder, 2015

Name of Data Source: Ontario Injury Data Report: Peterborough
Date Accessed: November 17, 2014

Contact Person: Ontario Injury Prevention Resource Centre
Data File/Website: <http://www.oninjuryresources.ca/downloads/publications>



Overall Usefulness: (1- least, 10- most)

1 2 3 4 5 6 7 8 9 10

Age of Subjects

0-6 years
 7-13 years
 14-19 years
 20+ years
 Unknown

Personal Data

Personal Identifiers
 Pseudo-anonymized
 Anonymous

Data Presentation

Graph
 Chart
 Raw
 Other (specify)

Age of Data

<1 years
 1-3 years
 3-5 years
 > 6 years
 Unknown

Collection Frequency

Annual
 Quarterly
 Monthly
 Other
 Unknown

Availability

Organization Only
 Public Access
 Information Request
 Other

Sex of Subjects

Male
 Female
 Unknown

Area of Focus

Falls
 Poisoning
 Bike and Pedestrian
 Choking, Suffocation
 Water Hazard
 Water Sports
 Motor Vehicle Accident
 Playground
 Electrical
 Drugs
 Alcohol
 Cyber-related
 Bus related
 Firearms
 Off-road Vehicle
 Other (specify)

Contain OHIP Codes

Yes
 No
 If yes, specify:

Geography of Data

City of Peterborough
 Peterborough County
 Township (specify)
 Other (specify)
 Unknown

Accessibility Format

Only Digital
 - Excel File
 - Word Document
 - PDF
 - Internet Website
 - Proprietary Software
 Only Paper
 - Statistical Report
 - Journal Article
 - Newspaper
 - Raw Collected Data
 Both Digital and Paper
 Other (specify)

Previously Used for Analysis

Yes
 No
 Unknown

Matches a Previously Analysed Dataset

Yes
 No
 Unknown
 If yes (specify):

Notes:

- Does not specify location or type of injury sustained (further breakdown required)
- Does not specify gender of individuals
- Does not specify yearly breakdowns or collection frequency or collection method

Community Assessment Report for Peterborough 2010

Peterborough Risk Watch Network Injury Data Assessment Tool

Peyton Schroeder, 2015

Name of Data Source: Community Assessment Report 2010
Date Accessed: January 18, 2015

Contact Person: Peterborough City and County Health Unit
Data File/Website: <http://www.pcchu.ca/wp-content/uploads/2011/09/Community-Assessment-Report-2010-November-11.pdf>

Overall Usefulness: (1- least, 10- most)

1 2 3 4 5 6 7 8 9 10

Age of Subjects

0-6 years
 7-13 years
 14-19 years
 20+ years
 Unknown

Personal Data

Personal Identifiers
 Pseudo-anonymized
 Anonymous

Data Presentation

Graph
 Chart
 Raw
 Other (specify)

Age of Data

<1 years
 1-3 years
 3-5 years
 > 6 years
 Unknown

Collection Frequency

Annual
 Quarterly
 Monthly
 Other
 Unknown

Availability

Organization Only
 Public Access
 Information Request
 Other

Sex of Subjects

Male
 Female
 Unknown

Area of Focus

Falls
 Poisoning
 Bike and Pedestrian
 Choking, Suffocation
 Water Hazard
 Water Sports
 Motor Vehicle Accident
 Playground
 Electrical
 Drugs
 Alcohol
 Cyber-related
 Bus related
 Firearms
 Off-road Vehicle
 Other (specify):
 - assault

Contain OHIP Codes

Yes
 No
 If yes, specify:

Geography of Data

City of Peterborough
 Peterborough County
 Township (specify)
 Other (specify):
 Unknown

Accessibility Format

Only Digital
 - Excel File
 - Word Document
 - PDF
 - Internet Website
 - Proprietary Software
 Only Paper
 - Statistical Report
 - Journal Article
 - Newspaper
 - Raw Collected Data
 Both Digital and Paper
 Other (specify)

Previously Used for Analysis

Yes
 No
 Unknown

Matches a Previously Analysed Dataset

Yes
 No
 Unknown
 If yes (specify):



Notes:

- Falls: age specific
 - Location (house, sport, etc) of injury
 - Activity level for portion of population (12+ years) 2001-2008
 - Death (unintentional): no age/ gender 2000-2005
 - Number of injuries but no age/ gender breakdown
 - Drugs and Alcohol use for 12-18 year olds: use in past year vs in lifetime (2009)

By The Numbers: WSIB Statistical Report 2013: Schedule 1

Peterborough Risk Watch Network Injury Data Assessment Tool

Peyton Schroeder, 2015

Name of Data Source: By the Numbers: WSIB Statistical Report 2013, Schedule 1
Date Accessed: January 18, 2015

Contact Person: Workplace Safety Insurance Board
Data File/Website: http://wsibstatistics.ca/WSIB-StatisticalReport_S1.pdf



Overall Usefulness: (1- least, 10- most)

1 2 3 4 5 6 7 8 9 10

Age of Subjects

0-6 years
 7-13 years
 14-19 years
 20+ years
 Unknown

Personal Data

Personal Identifiers
 Pseudo-anonymized
 Anonymous

Data Presentation

Graph
 Chart
 Raw
 Other (specify)

Age of Data

<1 years
 1-3 years
 3-5 years
 > 6 years
 Unknown

Collection Frequency

Annual
 Quarterly
 Monthly
 Other
 Unknown

Availability

Organization Only
 Public Access
 Information Request
 Other

Sex of Subjects

Male
 Female
 Unknown

Area of Focus

Falls
 Poisoning
 Bike and Pedestrian
 Choking, Suffocation
 Water Hazard
 Water Sports
 Motor Vehicle Accident
 Playground
 Electrical
 Drugs
 Alcohol
 Cyber-related
 Bus related
 Firearms
 Off-road Vehicle
 Other (specify):
 - workplace unspecified

Contain OHIP Codes

Yes
 No
 If yes, specify:

Geography of Data

City of Peterborough
 Peterborough County
 Township (specify)
 Other (specify): Ontario
 Unknown

Accessibility Format

Only Digital
 - Excel File
 - Word Document
 - PDF
 - Internet Website
 - Proprietary Software
 Only Paper
 - Statistical Report
 - Journal Article
 - Newspaper
 - Raw Collected Data
 Both Digital and Paper
 Other (specify)

Previously Used for Analysis

Yes
 No
 Unknown

Matches a Previously Analysed Dataset

Yes
 No
 Unknown
 If yes (specify):

Notes:

- Does not specify location injury sustained geographically
 - Breaks down sources of injury, case, type, industry, body part affected, fatalities, diseases but not in conjunction with demographic information
 - Age/ Gender breakdown but not in conjunction with geography or type of incident
 - Very little demographic information of use (16+ years of age)

By The Numbers: WSIB Statistical Report 2013: Schedule 2

Peterborough Risk Watch Network Injury Data Assessment Tool

Peyton Schroeder, 2015

Name of Data Source: By the Numbers: WSIB Statistical Report 2013, Schedule 2
 Date Accessed: January 18, 2015

Contact Person: Workplace Safety Insurance Board
 Data File/Website: http://wsibstatistics.ca/WSIB-StatisticalReport_S2.pdf

Overall Usefulness: (1- least, 10- most)

 1 2 3 4 5 6 7 8 9 10
Age of Subjects

0-6 years
 7-13 years
 14-19 years
 20+ years
 Unknown

Personal Data

Personal Identifiers
 Pseudonymized
 Anonymous

Data Presentation

Graph
 Chart
 Raw
 Other (specify)

Age of Data

<1 years
 1-3 years
 3-5 years
 > 6 years
 Unknown

Collection Frequency

Annual
 Quarterly
 Monthly
 Other
 Unknown

Availability

Organization Only
 Public Access
 Information Request
 Other

Sex of Subjects

Male
 Female
 Unknown

Area of Focus

Falls
 Poisoning
 Bike and Pedestrian
 Choking, Suffocation
 Water Hazard
 Water Sports
 Motor Vehicle Accident
 Playground
 Electrical
 Drugs
 Alcohol
 Cyber-related
 Bus related
 Firearms
 Off-road Vehicle
 Other (specify):
 - workplace unspecified

Contain OHIP Codes

Yes
 No
 If yes, specify:

Geography of Data

City of Peterborough
 Peterborough County
 Township (specify)
 Other (specify): Ontario
 Unknown

Accessibility Format

Only Digital
 - Excel File
 - Word Document
 - PDF
 - Internet Website
 - Proprietary Software
 Only Paper
 - Statistical Report
 - Journal Article
 - Newspaper
 - Raw Collected Data
 Both Digital and Paper
 Other (specify)

Previously Used for Analysis

Yes
 No
 Unknown

Matches a Previously Analysed Dataset

Yes
 No
 Unknown
 If yes (specify):

Notes:

- Does not specify location injury sustained geographically
 - Breaks down sources of injury, case, type, industry, body part affected, fatalities, diseases but not in conjunction with demographic information
 - Age/Gender breakdown but not in conjunction with geography or type of incident
 - Very little demographic information of use (16+ years of age)



Appendix F: Summary of Injury Data Source Assessment using Rubric Tool

Peterborough Risk Watch Network Injury Data Assessment Tool Summary

Compiled by: Peyton Schroeder

Compiled on: April 7, 2015

Data Set Title	NACRS 2003-2012	OIDR: Peterborough	WSIB: Schedule 1	WSIB: Schedule 2	Community Assessment Report 2010
Overall Usefulness (1-10)	8	7	3	3	4
Age of Subjects					
0-6 years	X	X			X
7-13 years	X	X			X
14-19 years	X	X	X	X	X
20+ years			X	X	X
Unknown					
Sex of Subjects					
Male	X		X	X	
Female	X		X	X	
Unknown		X			X
Data Presentation					
Graph					X
Chart		X	X	X	X
Raw	X	X	X	X	
Other (specify)					
Age of Dataset					
<1 years	X				
1-3 years	X				
3-5 years	X				
> 6 years	X	X	X	X	X
Unknown					
Collection Frequency					
Annual	X		X	X	X
Quarterly					
Monthly					
Other					
Unknown		X			X
Availability					
Organization Only	X				
Public Access		X	X	X	X
Information Request					
Other					

Personal Data					
Personal Identifiers					
Pseudo-anonymous					
Anonymous	X	X	X	X	X
Area of Focus					
Falls	X	X	X	X	X
Poisoning	X	X			
Bike and Pedestrian	X	X			
Choking, Suffocation	X	X			
Water Hazard	X				
Water Sports	X				
Motor Vehicle Accident	X	X	X	X	X
Playground	X	X			
Electrical	X				
Drugs	X				X
Alcohol					X
Cyber-related					
Bus related	X				
Firearms	X				
Off-road Vehicle	X	X			
Other (specify)			X: workplace unspecified	X: workplace unspecified	X: assault/ violence
Contain OHIP Codes					
Yes	X				
No		X	X	X	X
If yes, specify:	ICD-10				
Geography of Data					
City of Peterborough	X	X			X
Peterborough County		X			X
Township (specify)					
Other (specify)			X: Ontario	X: Ontario	
Unknown					

Accessibility Format					
Only Digital	X	X	X	X	X
- Excel File	X				
- Word Document					
- PDF		X	X	X	X
- Internet Website					
- Proprietary Software					
Only Paper					
- Statistical Report					
- Journal Article					
- Newspaper					
- Raw Collected Data					
Both Digital and Paper					
Other (specify)					
Previously Used For Analysis					
Yes					
No	X	X	X	X	X
Unknown					
Matches Previously Analyzed Data					
Yes					
No					
Unknown	X	X	X	X	X
If yes (specify):					
Notes:	- Requires special permissions and confidentiality agreement	- Does not specify gender of individuals	- Very little demographic use (16+ years old)	- Very little demographic use (16+ years old)	- Falls were age specific
	- Does not specify location or type of injury sustained	- Does not specify location or type of injury sustained	- Does not specify location or type of injury sustained	- Does not specify location or type of injury sustained	- Does not specify location or type of injury sustained
		- Does not specify yearly breakdown or collection frequency	- Does not combine injury type with age demographic	- Does not combine injury type with age demographic	- Number of injuries/death but no age breakdown

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Appendix G: Peterborough County Township Demographics

Peterborough city, county, and township demographic data including ages, gender breakdown, and total population.

Location	Total Population	Age (years)	Number of Male Individuals	Number of Female Individuals	Total Number of Individuals
City of Peterborough	139 567	0-4	3 245	3 208	6 454
		5-9	3 251	3 178	6 429
		10-14	3 389	3 142	6 531
		15-19	4 037	3 940	7 978
County of Peterborough	82 705	0-4	2 147	2 123	4 270
		5-9	1 996	1 967	3 963
		10-14	1 983	1 845	3 829
		15-19	2 371	2 300	4 671
Havelock-Belmont-Methuen	4 573	0-4	85	79	164
		5-9	103	90	193
		10-14	105	99	204
		15-19	103	113	216
Asphodel-Norwood	4 028	0-4	90	85	175
		5-9	95	93	188
		10-14	105	102	207
		15-19	121	129	250
Douro-Dummer	6 893	0-4	148	143	291
		5-9	166	156	322
		10-14	180	164	344
		15-19	221	223	444
Otonabee-South Monaghan	6 743	0-4	141	134	275
		5-9	157	142	299
		10-14	160	145	305
		15-19	197	185	382
North Kawartha	2 317	0-4	30	39	69
		5-9	36	43	79
		10-14	47	48	95
		15-19	48	49	97
Cavan Monaghan	8 691	0-4	175	173	348
		5-9	202	190	392
		10-14	247	224	471
		15-19	291	304	595
Trent Lakes	5 133	0-4	70	83	153
		5-9	89	96	185
		10-14	105	82	187
		15-19	110	97	207
Selwyn	17 172	0-4	328	321	649
		5-9	371	370	741
		10-14	421	411	832
		15-19	524	498	1022

Appendix H: OHIP ICD10 Code Breakdown

- (V01-V09) PEDESTRIAN INJURED IN TRANSPORT ACCIDENT
- (V10-V19) PEDAL CYCLIST INJ IN TRANSPORT ACCIDENT
- (V20-V29) MOTORCYCLE RIDER INJ TRANSPORT ACCIDENT
- (V30-V39) OCCUPANT THREE-WHEEL MOTOR VEHICLE
- (V40-V49) CAR OCCUPANT INJ IN TRANSPORT ACCIDENT
- (V50-V59) OCCUPANT OF PICK-UP TRUCK OR VAN INJURED
- (V60-V69) OCCUPANT OF HEAVY TRANSPORT VEHICLE INJ
- (V70-V79) BUS OCCUPANT INJ IN TRANSPORT ACCIDENT
- (V80-V89) OTHER LAND TRANSPORT ACCIDENTS
- (V90-V94) WATER TRANSPORT ACCIDENTS
- (V98-V99) OTH & UNSPECIFIED TRANSPORT ACCIDENT
- (W00-W19) FALLS
- (W20-W49) EXPOSURE TO INANIMATE MECHANICAL FORCES
- (W50-W64) EXPOSURE TO ANIMATE MECHANICAL FORCES
- (W65-W74) ACCIDENTAL DROWNING AND SUBMERSION
- (W75-W84) OTHER ACCIDENTAL THREATS TO BREATHING
- (W85-W99) EXP TO ELECTRIC CURRENT/RADIAT/AIR TEMP
- (X00-X09) EXPOSURE TO SMOKE, FIRE AND FLAMES
- (X10-X19) CONTACT WITH HEAT AND HOT SUBSTANCES
- (X20-X29) CONTACT WITH VENOMOUS ANIMALS AND PLANTS
- (X30-X39) EXPOSURE TO FORCES OF NATURE
- (X40-X49) ACCIDENTAL POISN&EXPOSURE TO NOX SUBS
- (X50-X57) OVEREXERTION, TRAVEL AND PRIVATION
- (X58-X59) ACCIDENTAL EXP TO OTH & UNSPEC FACTORS
- (X60-X84) INTENTIONAL SELF-HARM
- (X85-Y09) ASSAULT
- (Y10-Y34) EVENT OF UNDETERMINED INTENT
- (Y35-Y36) LEGAL INTERVENTION AND OPERATIONS OF WAR
- (Y85-Y89) SEQ OF EXT CAUSES OF MORBID/MORTALITY

Appendix I: Summary of Findings

The main goal of the Measuring Risk in Peterborough project was to develop and implement an injury data assessment tool. This tool was created to be in a user friendly, easily accessible, and easily modifiable format. The assessment tool is attached to this document for reference. The rubric assessment tool is a series of open-ended and check box questions and criteria. The tool also contains an overall ranking of usefulness for the Peterborough Risk Watch Network's projects and programs. This is a subjective ranking based on the characteristics contained in the injury data source and the type of information that the Peterborough Risk Watch Network is looking for. For example, an injury data source focussed on falls would be less useful when developing an injury prevention program for motor vehicle accident prevention. The scale ranges from one being minimally useful to ten being very useful and exactly what the Peterborough Risk Watch Network is looking to gain.

Through the environmental and digital scans for injury data information, I have located five sources that pertain to the project and the Peterborough Risk Watch Network's project goals. The sources that were obtained were easily accessible due to the information being in a digital form. The availability of the sources proved to be less easily obtained. The information of interest on children and youth under 19 years of age is harder to locate and get accurate information. Injury data information for the City and County of Peterborough is incomplete and only a partial, subjective representation of the injuries occurring. The hospital admissions data and community reports are dated and do not specify direct causes of injury. The broad categories do not help for in-depth insight into the problems and trends of child and youth injury.

The injury data that was collected for children and youth under 19 years old is minimally useful for the Peterborough Risk Watch Network's current and potential programs. The injury data does not give the direct causes of the injuries but a broad umbrella term to group similar causes under one heading. The injury data also does not give specific incidents, time or year, or the type of injury that occurred to the individual, such as a broken wrist or concussion. The injury data collected can suggest injury trends for age groups and sex but cannot provide any strong correlation between the injuries and residents of Peterborough. Since anyone can go to the emergency room at the hospital the records are not specific enough to exclude individuals who are not permanent residents of Peterborough. The injury data collected is limited in its usefulness for injury prevention program creation and modification. A summary of the evaluation of the injury data sources that were collected is attached to this document.

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