

Health Evaluation Newsletter

Volume 11, Issue 1

The Newsletter of the Health Evaluation Network (HEN) in Saskatchewan

July 2009

Post-release appraisal of SK Comprehensive Injury Surveillance Report, 1995 - 2005

The [Saskatchewan Comprehensive Injury Surveillance Report, 1995-2005](#) released in July last year was a collaborative initiative of the Government of Saskatchewan, the Saskatchewan Government Insurance (SGI), the Saskatchewan Prevention Institute (SPI), the Saskatchewan Workers' Compensation Board (SWCB), Safe Saskatchewan, the University of Saskatchewan and the University of Regina.

The report received a lot of attention from the media as well as its stakeholders. Regina's leading daily covered a Saturday article on the report. The CBC-Radio ran two separate sessions discussing the report's findings with the Province's Chief Medical Health Officer.



Report explores Sask. injuries

Angela Hall, Leader-Post
Published: Saturday, July 05, 2008

Finding ways to better protect the Saskatchewan public from car crashes, self-inflicted harm and other causes of injury is the goal of a report released Friday, says chief medical health officer Dr. Ross Findlater.

The Ministry of Health received positive feedback from health regions across the province informing the usefulness of information from the report in their program planning. The Regina Qu'Appelle Health Region covered the report in its Quarterly Newsletter

drawing highlights of its own results from the report. "HandiFarmer", a newsletter serving farmers with disabilities brought out an article featuring relevant results from the report that pertained to farm related injuries. Saskatchewan's Acquired Brain Injury (ABI)- Partnership Project stepped in to produce hard copies for distribution to those stakeholders, who will potentially be using the report most often.

The positive response from stakeholders served as an indication of the need for such a report, highlighting its successful release. The collaborative initiative, indeed the strength of the report, was a valuable lesson learned and serves to provide an example for future reports.

For further inquiries about this report, please contact the Ministry of Health at: epidemiology@health.gov.sk.ca.

HEN Updates...

The *Evaluation Showcase*, the spring event jointly organized this year in Regina by the Saskatchewan Chapter of Canadian Evaluation Society (CES) and Saskatchewan's Health Evaluation Network (HEN) was once again a testimony of successful partnership that has been ongoing for several years. The presentation of five oral and six poster showcases (See abstracts of their presentations in this newsletter.) engaged 35 participants in an interactive mode. The topics of showcase were wide ranging, which is typically a characteristic of this annual event. At the same time, the presenters had brought a lot of new energy and insights from their rich professional experience in the field of evaluation. Clearly, as the main activity of the HEN in collaboration with the CES, the Showcase continues to support its members in their evaluation activities, by sharing lessons from one another's experience. The HEN invites its members to provide suggestions or any new ideas for further improvement in its activities.

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In This Issue:

	<u>Page</u>
* Post-release appraisal of SK Comprehensive Injury Surveillance Report, 1995 – 2005	1
* HEN Updates...	1
* PHAC: Building evaluation capacity one stitch at a time	2
* Assessing the health impact of Saskatchewan uranium mine waste	4

Page

* QuickStats	5
* Illness due to Novel H1N1 Influenza A Virus: Preliminary Results, Regina Qu'Appelle Health Region	6
* Abstracts of CES/HEN Evaluation Showcase - 2009	8
* News / Congratulatory Briefs	12
* SEA 2009 Conference Announcement	12

A Public Health Agency of Canada (PHAC) contribution:

Building evaluation capacity one stitch at a time

The Saskatchewan Aboriginal Head Start (AHS) Evaluation Working Group (in alphabetical order): Candida Bourassa, Kathleen Desautels, Lori Ebbesen, Pat Emmerson, Patty Gauthier, Gloria Nateways, Beverly Norton, Norine Poitras-Cole, Lily Robinson, Loretta Whitecap-Brown, Lisa Zakowski

This article describes a colourful and innovative evaluation capacity building effort hosted by the Saskatchewan Aboriginal Head Start (AHS) Evaluation Working Group, the stitching of our 'evaluation quilt.' It is written with three purposes in mind: to provide a brief overview of the theory related to evaluation capacity building; to illustrate one way in which we have put this theory into practice; and to reinforce the importance of engaging in capacity building efforts in creative ways.

Our grounding in evaluation capacity building

Evaluation capacity building at its simplest can be understood as any effort to develop evaluation skills and knowledge. Basic to more sophisticated evaluation capacity building is that it is intentional and collaborative: "purposive, attentive, and reflective work with others" (Baizerman et al., 2002, pg. 105). Indeed, traversing along the definitional spectrum, the concept of intentionality becomes paramount and evaluation capacity building is viewed as "the intentional work to continuously create and sustain overall organizational processes that make quality evaluation and its uses routine" (Stockdill, Baizerman & Compton, 2002, pg. 14). Consistent with this definition, evaluation capacity building denotes two key functions (Beere, 2004; Preskill & Boyle, 2008). First, the development of knowledge, skills and expertise needed to undertake quality and useful evaluations. Second, is creating and maintaining a culture of evaluation for that expertise, a culture in which evaluation information is respected, evaluations are sought more frequently and evaluation findings and recommendations are used. Cornerstones characterizing evaluation capacity building are there is no 'one size fits all' approach, multiple strategies are possible and require an understanding of participants (Preskill & Boyle, 2008), capacity building is never complete and capacity building work can and, indeed, needs to be evaluated (Beere, 2004).

Our evaluation context

Aboriginal Head Start (AHS) is a holistic early childhood intervention program funded by the Public Health Agency of Canada (PHAC), national in scope and implemented regionally including 15 sites in Saskatchewan. An Evaluation Working Group, made up of half of the site Directors and several PHAC representatives has been established in Saskatchewan and is responsible for guiding the evaluation of Aboriginal Head Start (AHS) in our province *and* for nurturing a positive evaluation culture. In attempts to build skills as well as grow the receptivity to evaluation,

our Group has planned and facilitated a series of evaluation capacity building efforts that exemplify the cornerstones recommended. As such, our efforts have been intentional, lively, directed at the whole program staff provincially, implemented collaboratively and evaluated against respective objectives.

Our evaluation capacity building workshop

Our latest capacity building effort was held in March 2009 when we weaved together a one-day workshop titled "*Stitching together the fabric of our plan & activities.*" The workshop theme was picked intentionally and guided our agenda for the day. Just as the Saskatchewan AHS program has created a quilt with squares prepared by sites, we set out to create a complementary 'evaluation quilt' with squares representing our various evaluation activities!

The workshop was designed to foster greater collective understanding about evaluation generally and our multi-level evaluation efforts within AHS specifically. Participants included a Métis cultural advisor, Directors from most of our SK AHS sites and representatives from PHAC. Together we reviewed our evaluation pattern, reflected on the array of ways in which we are contributing to evidence about AHS, identified stakeholders interested in our evaluations and posed suggestions for both sharing evidence and furthering action from that evidence.

To set the fundamental stage and draw on the wisdom of participants, we started our workshop by honouring our workshop theme and 'numbering off' as 'needle' or 'thread.' The thread group was asked to think of evaluations in which they had been involved and to compile a list of qualities of a 'good' evaluation. The needle group was asked to identify aspects of evaluations that 'needle' them! We progressed through foundational theoretical and professional standards underpinning quality evaluations, highlighting key decisions of the Evaluation Working Group and ways

in which we have embedded evaluation theory and standards into our practice. Our complex multi-level evaluation activities were each profiled, presented as a 'square,' colour coded for national, regional and provincial levels and resulting in our 'evaluation quilt,' a rich tapestry of integrated knowledge-related work.



Evaluating our workshop ensured we had not 'dropped any stitches' along the way. We asked for written and verbal feedback using three methods: a mid-day written evaluation to allow participants the opportunity to provide input, reflections and suggestions so necessary adjustments could be made; an end of workshop revisiting and discussion of workshop goals and any 'loose threads;' and a final round-table allowed each participant to reflect and comment on her workshop experience and raise questions still outstanding.

Our workshop reflections

Based on their feedback, participants considered this workshop successful and credited it with building knowledge, garnering collective understanding and enthusiasm and providing innovative ideas for sharing and using our evaluation evidence with our multiple stakeholders. Our Evaluation Working Group critiqued this workshop as an evaluation capacity building effort,

reflecting on key lessons derived about how to build evaluation capacity, as follows:

- The merit of devoting time and energy specifically to evaluation capacity building within AHS as a precursor to quality evaluations with our many communities;
- The relevance of hosting evaluation capacity building opportunities in a timely way to respond to questions and alleviate confusion;
- The importance of honouring evaluation capacity building theory in combination with traditional knowledge, practices and our program context;
- The need to balance developing knowledge and 'expertise' along with fostering a positive evaluation climate in all of our capacity building efforts, as sustained interest and enthusiasm will serve our AHS evaluations well; and
- The value of presenting evaluation capacity building creatively and in a manner that is meaningful to our AHS participants.

This workshop proved to be an opportunity for the Evaluation Working Group to showcase collectively the fabric of our AHS evaluation work and a poignant example of how to build evaluation capacity in a colourful and innovative way, well-received by participants. Our evaluation capacity building efforts within AHS will continue to unfold, one stitch at a time. Ultimately, we anticipate capacity benefits to be threaded through the quality of AHS evidence and the potential for its use in informing programmatic improvements and advancing action from knowledge.

References

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Assessing the health impact of Saskatchewan uranium mine wastes

*Evan Morris
EcoTech Research Ltd., Regina*

The issue

Saskatchewan is the world's largest producer of uranium. Uranium ore from mines in northern Saskatchewan is milled to extract uranium, then shipped off and turned into fuel for nuclear reactors. After uranium is extracted from the ore, considerable quantities of other radioactive elements remain behind. These wastes, called tailings, are stored at or close to the surface.

Uranium mine wastes contain large quantities of a radioactive isotope of thorium which produces radon gas. Radon is a radioactive gas, and when breathed in it can cause lung cancer in humans. Unmined thorium remains buried underground, and almost all of the radon it produces decays before it reaches the surface. Since uranium waste piles are typically placed on or close to the surface, much of the radon gas produced escapes to the atmosphere. Once the radon gas reaches the atmosphere the wind may carry it for long distances, thereby exposing a large number of people to it.

Uranium mining in Saskatchewan began in the 1950s in the area near Uranium City. Many additional mines have been built in northern Saskatchewan since then. Several uranium mines were abandoned in the late 1950s and early 1960s, and their waste sites have not been cleaned up. These waste sites have been producing radon gas for over 50 years. The evaluation question that we want to answer is: how many cases of lung cancer have been caused by uranium mine wastes in Saskatchewan?

Radon and lung cancer data

Determining how many additional cases of lung cancer are due to uranium mine wastes has been difficult to answer for a number of reasons. Early knowledge of the effect of radon came from data on underground uranium miners, particularly from mines in Ontario. These miners suffered higher rate of lung cancer due to inhaling radon gas. Since the 1960s cancer rates among uranium miners have dropped, largely due to improved ventilation and other safety measures.

The studies on uranium miners involved exposure to radon at high concentrations, whereas the radon gas produced in uranium mine wastes exposes individuals to much lower doses than that encountered by uranium miners.

There are conflicting opinions about whether low doses cause negative health effects. One theory of radiation exposure states that below a certain threshold level radiation will not have an adverse effect, and that exposure to radon from uranium mine wastes is below this threshold level. Partly as a result of this theory, and partly due to the low levels of exposure from uranium mine wastes, very little research has been conducted to determine the extent to which uranium mine wastes cause additional cases of lung cancer.

A contrary opinion discounts the threshold effect, based largely on research conducted since the early 1990s on naturally occurring radon in the environment. Radioactive materials such as uranium and thorium are found naturally in rocks and soil, though in small quantities. As a result radon gas may be found in the home. The amount of radon varies from place to place, depending on the type of soils and rocks that are found in an area. Studies conducted over the last 30 years show that higher rates of lung cancer occur where radon levels are higher. It is estimated that approximately 10 to 15% of all lung cancer cases are due to naturally occurring radon. So far no threshold has been found below which additional lung cancers do not occur.

The total radon gas that individuals inhale will be from the naturally occurring radon in their neighbourhood and from radon blown in from uranium mine waste sites. While the small additional amount from uranium mine wastes may be below a hypothetical threshold value, the total exposure due to local and waste site radon will be above any existing threshold value. As a result we cannot ignore the possible health effect of radon on lung cancer, even if the threshold theory should eventually prove to be true.

How to evaluate the health effect of existing Saskatchewan uranium mines

When estimating lung cancers due to radon gas from uranium mines, we need to consider a number of factors:

- The probability of any one individual developing lung cancer is extremely small.
- The number of lung cancer cases increases as more people are exposed.
- The number of people exposed depends on how long radon has been emitted.
- The number of people exposed also depends on how far the wind has carried the radon.

In order to determine how many additional cases of lung cancer have occurred due to uranium mining, we need to carry out the following evaluation steps:

1. Measure how much radon is emitted from mine wastes
2. Estimate the spread of this radon over time
3. Determine the size of the affected population
4. Calculate the radiation dose for each individual
5. Calculate the number of lung cancer cases due to radon from mine wastes

Step 1: Measure how much radon is emitted from the wastes due to a specific mine. Measure the radon levels above the mine wastes and measure the level of naturally occurring radon (the background level). Compare the two measurements. The difference in measurements will be the amount of additional radon produced by the uranium mine wastes.

Step 2: Estimate the spread of this radon over time
Interest in climate change over the past thirty years has resulted in the development of sophisticated and powerful computer models which allow us to estimate how the wind spreads radon and other pollutants. We can modify these computer programs to take the radon gas emission rate for a particular mine, as in step 1, and calculate how the radon gas would have spread by using worldwide meteorological data from the time the mine opened up to the present. The program will then provide us with an estimate of the resulting radon concentrations throughout the world over the past 50 years.

Step 3: Determine the size of the affected population
Good population data is available for most parts of the world, and can be incorporated into the computer model.

Step 4: Calculate the radiation dose for each individual
In step 2 we used radon emission measurements and daily wind measurements to map the spread of radon worldwide. In step 4 we combine the radon concentrations with population density values in order to estimate the radiation dose that each individual received in different areas of the world.

Step 5: Calculate the number of additional lung cancer deaths due to radon emissions from a particular mine
In this step we estimate the number of additional lung cancer deaths over the past 50 years due to a specific Saskatchewan uranium mine by combining the individual dose calculated for each individual in the world (from step 4) with the dose-response relationship for radon exposure and lung cancer. This dose response relationship would be based on the studies of

additional lung cancers caused by naturally occurring radon gas.

These five steps will allow us to estimate the number of lung cancer deaths caused to date by each uranium waste site in the province.

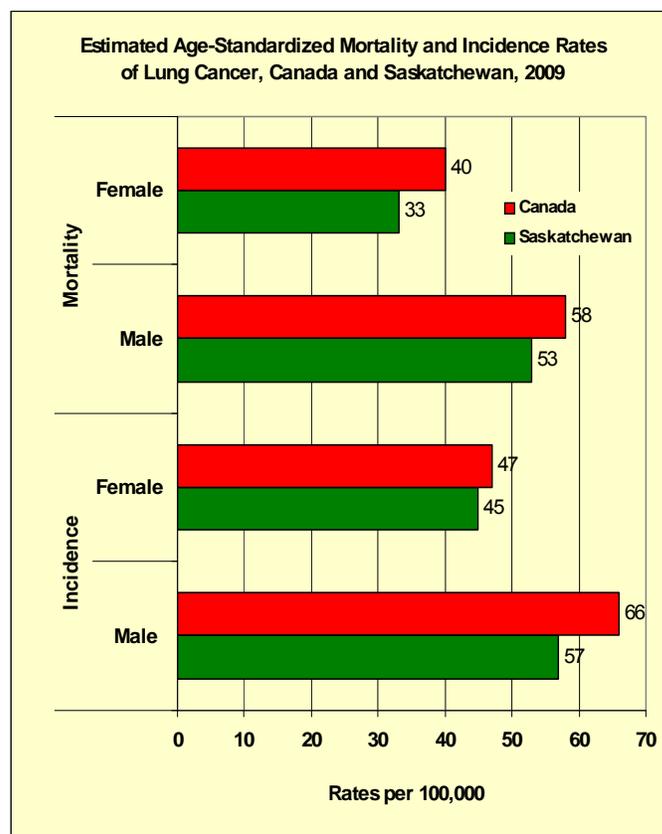
Summary

New tools have been developed that now make it possible to estimate the number of additional cases of lung cancer that will result from the wastes from a single uranium mine. Small individual doses of a radiation from radon gas may have a large impact when large numbers of individuals are affected. Some of the techniques used to predict global climate change can be applied to the evaluation of health effects due to airborne contaminants such as radon.

For more information on this topic, please contact Evan Morris at: ecotech@sasktel.net



QuickStats:



Data source: Canadian Cancer Statistics, 2009.

Note: Rates are age-standardized to the 1991 Canadian population.

Illness due to Novel H1N1 Influenza A Virus: Preliminary Results, Regina Qu'Appelle Health Region

Maurice Hennink, Zahid Abbas and Kathy Lloyd
Population and Public Health Services, Regina Qu'Appelle Health Region
Regina, Saskatchewan.

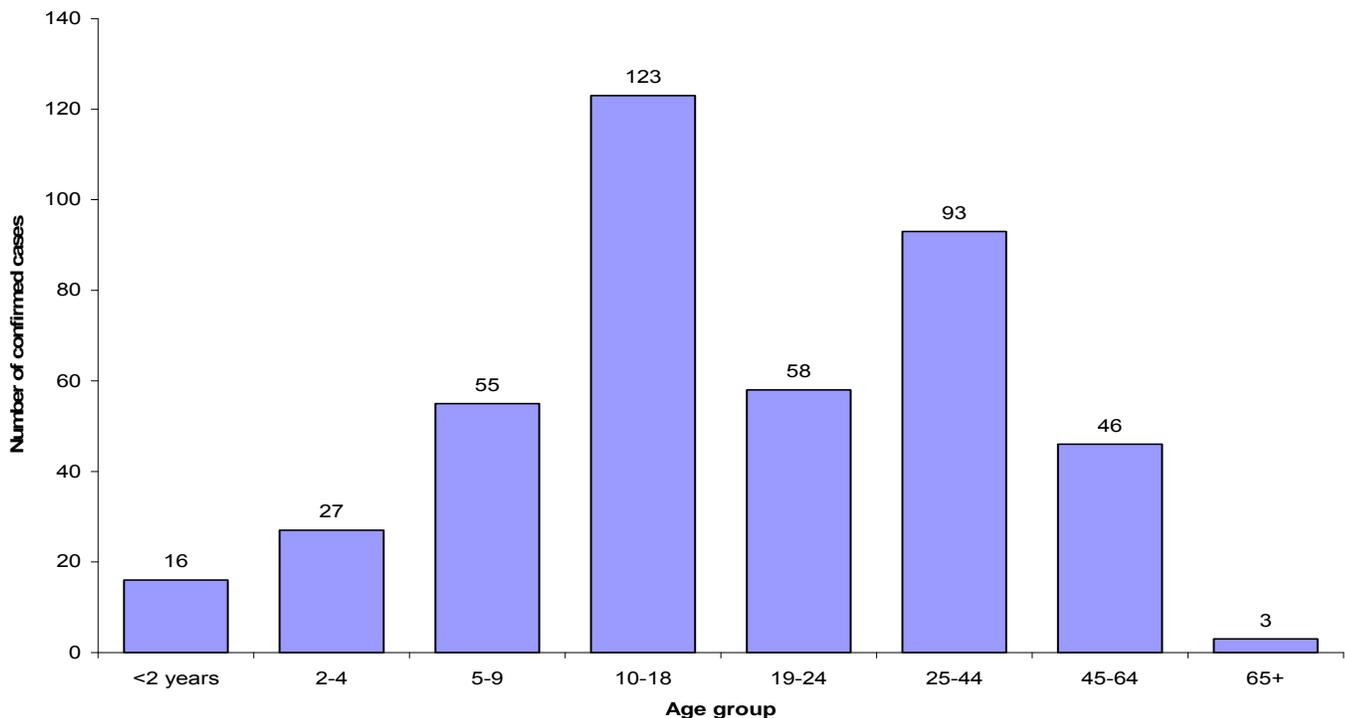
Novel H1N1 influenza A virus has been reported in Canada, the United States, Mexico and several other countries. As of July 6, 2009, the World Health Organization (WHO) has reported a cumulative total of 94,512 cases of laboratory confirmed cases of novel H1N1 influenza A virus with 429 deaths.

The preliminary results of novel H1N1 influenza virus A cases reported in the Regina Qu'Appelle Health Region (RQHR) from May 7 to July 22, 2009 is summarized below.

There were a total of 421 laboratory confirmed cases of novel H1N1 influenza A virus reported in the RQHR.

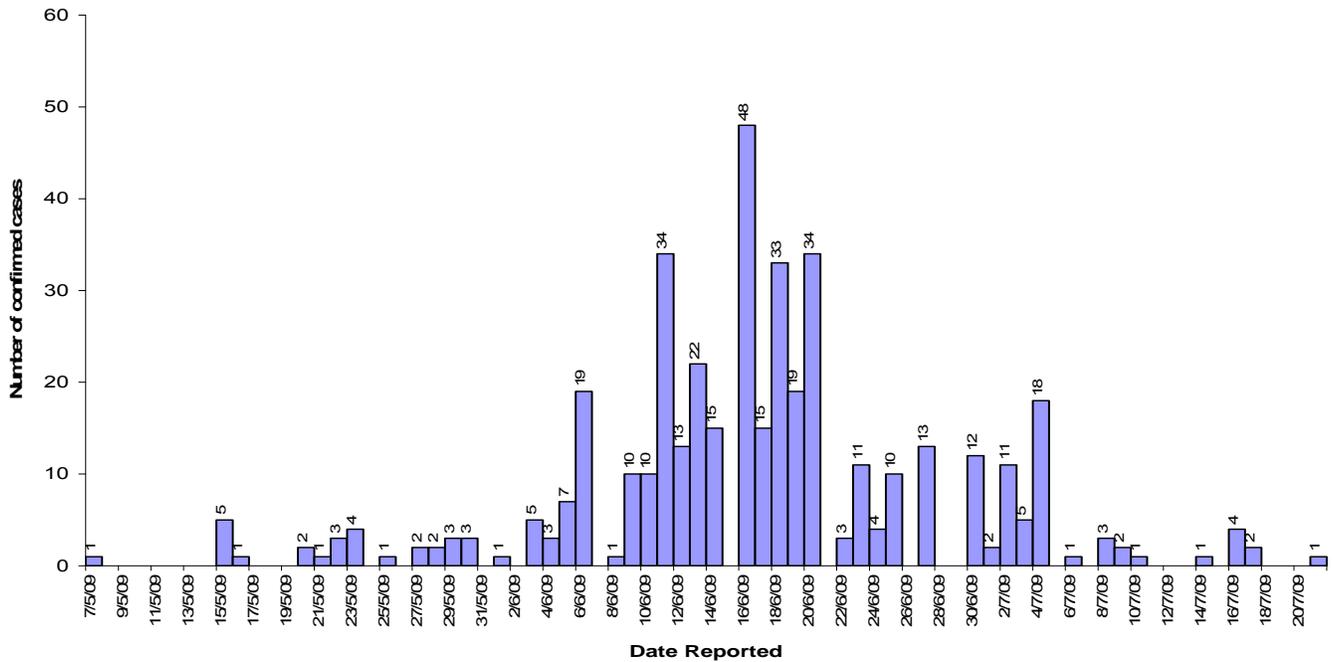
Reported date of H1N1 influenza illness among all cases has ranged from May 7 through July 22, 2009. Of the 421 laboratory confirmed H1N1 cases reported to date, 54.9% (231) are female; 52.5% (221) are less than 18 years old. Most confirmed cases have been reported in 10 - 18 year olds (123 confirmed cases - 29.2%) (Figure 1). The median age was 17 years and range <1 to 80 years. There has been one death reported in an adult female who had underlying medical conditions and was hospitalized. Four cases that had underlying medical conditions were known to be hospitalized for severe respiratory illness. One case is associated with travel abroad.

Figure 1: Number of confirmed cases of Novel H1N1 Influenza cases in RQHR, Saskatchewan by age group, May 7 to July 22, 2009



Source: Communicable Disease Program, Population and Public Health Services, RQHR.

Figure 2: Distribution of H1N1 laboratory confirmed cases in RQHR, by date of report



Source: Communicable Disease Program, Population and Public Health Services, RQHR

The number of cases of novel H1N1 influenza A virus surged during June and peaked on June 16, 2009 and has been declining since last week of June, 2009 (Figure 2).

Of the 5,851 isolates tested between week ending May 18 and July 17 at the Saskatchewan Disease Control Laboratory (SDCL), 845 (14.4%) tested positive for novel H1N1 influenza A virus. The proportion of isolates testing positive for novel H1N1 influenza virus increased from 0.5% for week ending May 8th to a positivity rate of 29.9% in the week ending June 19th. The positivity rate has since been declining

Geographic Location:

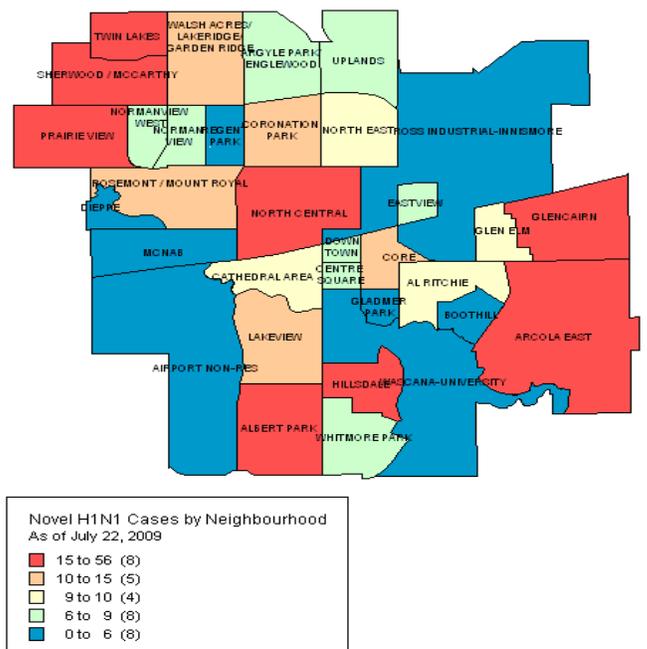
Eighty six percent (359) of laboratory confirmed cases of novel H1N1 influenza virus were reported from the City of Regina (Figure 3). Arcola East had the highest number of cases (56).

Conclusion:

RQHR will continue to monitor the situation with focus on severe illness, cluster of cases and certain groups of particular concern.

For more information, please contact Zahid Abbas, Epidemiologist, RQHR at: Zahid.Abbas@rqhealth.ca.

Figure 3: Number of laboratory confirmed cases of novel H1N1 influenza A virus in Regina city area by neighbourhood.



Abstracts of CES/HEN Evaluation Showcase – 2009

"SHARING LESSONS LEARNED"

Thursday, May 14, 2009
West Harvest Inn, Regina, Saskatchewan

ORAL SHOWCASES:

O1. Return on Evaluation (ROE): Community-Based Programming Examples.

Dwayne Baker

Evaluation Unit, Ministry of Tourism, Parks, Culture and Sport

Most programmers acknowledge the need for evaluation to determine whether or not their program has an impact on its intended outcome(s). There are many reasons that programmers use to avoid conducting a comprehensive evaluation of their programs. A common reason is that many programmers view the time and money spent on evaluation as a drain on limited resources that are available for programming. Return on evaluation challenges programmers and evaluators to suspend their beliefs and engage in genuine dialogue in order to dispel myths and design an evaluation process that is more beneficial for their organizations and their participants/target audience.

Lessons Learned:

Pragmatic approaches to resolve difficult issues that often arise in community-based evaluation. Creative approaches to obtaining funding for research/evaluation projects. Examples of evaluation and research projects have led to substantial increases in program funding.

O2. Deprivation, Self-Reported Health and Health Services Utilization, Regina Census Metropolitan Area.

Tania Diener, Dale Young and Zahid Abbas

Population and Public Health Services, RQHR

As part of the Regina Qu'Appelle Health Region's commitment to decrease health disparities and explore the link between socio-economic status and health, RQHR as part of the Urban Public Health Network (UPHN) participated in the Canadian Institute of Health Information (CIHI) study.

Regina CMA had higher median after tax family income, a lower proportion of residence without a certificate, degree or diploma and a lower employment rate than the pan-Canadian average. The proportion of one person households, families headed by a single parent and children under 15 years of age in Regina CMA were higher than the pan-Canadian average.

Age-standardized hospitalization rates were higher among low SES group across the 12 indicators examined. There were significant variations in hospitalization rates across the three SES groups. The

rate ratio was more than 4 times for low SES group than the high SES group on 5 of the 13 health service utilization indicators. The rate ratio was 2 to 4 times greater for the low SES group than the high SES group on 4 of the 13 health service utilization indicators. The low SES group was more than 2 times more likely to smoke and 1.6 times less likely to be physically active than the high SES group. The rate ratio for self-reported health indicators for lower SES group was higher than the high SES group on 6 of the 8 indicators.

O3. P.A.R.T.Y. program evaluation in Saskatoon Health Region.

Josh Marko, Tanis Kershaw and Julie Gerwing

Saskatoon health Region

The Prevent Alcohol and Risk-Related Trauma in Youth (P.A.R.T.Y.) program is a one-day, in-hospital injury awareness and prevention program developed in 1986 in Toronto, Canada. It has been operational in Saskatoon and area for the past three years. The program is designed to expose Grade 10 students to the tragic consequences of risk-taking behaviours like drinking alcohol and driving, riding in a vehicle without a seat belt, or not wearing a helmet when it is required.

The evaluation of the Saskatoon P.A.R.T.Y. program followed a quasi-experimental pre-post design, with no control group. Students who participated in the P.A.R.T.Y. program were given a questionnaire one week prior to the actual day. The questionnaire was a mix of attitudinal questions on risk and their behaviour, as well as knowledge based questions about injury and risk. The students were then given the same survey two weeks after to see if their attitudes and/or knowledge changed as a result of them participating in the P.A.R.T.Y. program.

Paired sample t-tests between the pre and post periods for both the attitudinal and knowledge based sections of the survey showed students fared better in the post test period (statistically significant differences at the 95% level).

Lessons Learned:

Further suggestions for strengthening the design of future evaluations would be appreciated as limitations of this evaluation and some lessons learned will be explored. However, this program evaluation showed, in the short term at least, some compelling results and are consistent with findings from other P.A.R.T.Y. program evaluations.

04. Evaluating the health impact of Saskatchewan uranium mine wastes.

Evan Morris

EcoTech Research Ltd.

Uranium mining creates a large volume of waste which is typically stored at or close to the surface. Most estimates of health outcomes due to radioactive mine wastes have concentrated on the effect on local residents. However uranium mine wastes contain radioactive materials which produce radon, a radioactive gas. The wind can carry this radon gas for long distances and expose a large number of people. Exposure increases an individual's chance of developing lung cancer. Most health assessments of uranium mine wastes have ignored the long term problem of radon since the likelihood of any one individual developing lung cancer due to inhaling radon from a uranium mine is extremely small. The problem with this approach is that mine wastes will produce radon for many tens of thousands of years, exposing a large number of people over this time period. Newly developed tools make it possible to estimate the number of additional cases of lung cancer that will result from the wastes from a single uranium mine.

Lessons Learned:

Evaluating the health impact of environmental contaminants requires a life cycle approach. Small individual doses of a contaminant may have a great impact when large numbers of individuals are affected. Some of the techniques used to predict global climate change can be applied to the evaluation of health effects due to mining activities which produce airborne contaminants such as radon.

05. Uptake and usage of clinical evidence in Saskatchewan: Local effectiveness of CADTH's Health Technology Inquiry Service (HTIS).

Brendalynn Ens, Aaron Gabriel

Canadian Agency for Drugs and Technologies in Health

The need for readily accessible clinical unbiased evidence is critical for all sectors of health care. The Canadian Agency for Drugs and Technologies in Health (CADTH)'s Health Technology Inquiry Service (HTIS) provides Canadian stakeholders with a prompt and comprehensive evidence-searching service since 2004.

Saskatchewan decision-makers from all levels and specialties of health care frequently contact HTIS for information. In 2008, it was unclear about the impact and uptake of this service by requestors. To determine practical value, a telephone survey targeting recent requestors was conducted with 28 randomly selected users. Intents of the evaluation were to determine value to the requestor, and to identify impact in policy or clinical practice as a result of information received.

Results from the telephone survey indicated high value of the HTIS service. Information received impacted purchasing, policy development, and general information needs.

This poster outlines the methods and results of the survey and provides specific examples of how research received from the service in a timely way had been used for decision-making in government, health authority, and clinical levels of health service. Implications are useful to evaluation professionals as it provides direct insight into knowledge translation uptake from clinical research at the local level.

Lessons Learned:

Verification of practical usage services is important. Outcomes help improve available services provided.

POSTER SHOWCASES:

P1. Injury Hospitalizations, Regina Qu'Appelle Health Region, 2001-2005.

Tania Diener, Zahid Abbas, Heather Dorgan and Anna Engel

Population and Public Health Services, RQHR

Injury is a major public health problem in Regina Qu'Appelle Health Region (RQHR). One of the goals of the RQHR is to reduce injury and injury-related hospitalizations and deaths in RQHR residents. We routinely analyze injury related hospitalization and death data to show the demographics and causes of injuries as a basis for developing program and services to reduce injuries in our residents.

Information on hospitalizations was provided by the Ministry of Health, Saskatchewan (MOH). Cases in this report include all RQHR residents who were hospitalized as in-patients in Saskatchewan and out of province/country hospitals with an external cause of injury (E800-E999). Injuries due to medical or surgical complications were excluded from analysis by ICD-9 E Codes:

- Misadventures in medical care E870 - E879
- Drug's adverse effects in therapeutic use E930 - E949

Descriptive data analysis was done to compare the City of Regina burden of injury with that of the rural RQHR and to describe variations of injury hospitalization patterns within the health region.

From 2001 to 2005, an average of 2,842 hospitalizations per year for injuries occurred in RQHR. From 2001 to 2005, a majority of injury hospitalizations were due to fall (49.1%), transport related accidents (11.2%), self-harm (7.5%) and assault (6.4%). Males had a higher overall injury hospitalization rate compared to females. Females had a higher injury hospital separation rate than males for falls and self-harm. From 2001 to 2005, an average of 182 hospitalizations for assault related injuries occurred in RQHR. Males were

almost three times as likely to be hospitalized as a result of assault compared to females (118.1 and 40.2 per 100,000 population, respectively). Transport related hospitalization was approximately twice as high among males compared to females (165.3 and 98.7 per 100,000 population, respectively). Rural males had the highest rate of transport related hospitalizations between 2001 and 2005.

The results are being utilized to develop policies and programs to prevent and/or reduce injury hospitalizations among RQHR residents. The data provide quantifiable evidence and trend of injury hospitalizations that may help in designing programs to change behavior that contributes to injuries.

P2. Tobacco Smoking in the Regina Qu'Appelle Health Region, 2005.

*Tania Diener, Zahid Abbas, Anna Engel, Dale Young and Lynn Greaves
Population and Public Health Services, RQHR*

Tobacco smoking is the leading cause of preventable death in Canada. Smoking is responsible for one in five deaths in Canada. This is roughly five times the number of deaths caused by car accidents, suicides, drug abuse, murder and AIDS combined. Deaths from smoking result in 15 years loss of expected life, on average.

To provide an overview of the prevalence of tobacco smoking and demographic characteristics of smokers in the Regina Qu'Appelle Health Region (RQHR) for 2005.

Data from the Canadian Community Health Survey (CCHS) Cycle 3.1 was used. The CCHS provides health information, including estimates of health determinants, health conditions and health system utilization. Data was collected in 2005 from persons aged 12 years and over. The survey methodology is described elsewhere. A comparison of the distribution of age, education, income, self-reported health and prevalence of risk factors among the survey respondents was made. Smoking status was not imputed for survey respondents who did not answer the relevant questions.

According to the Canadian Community Health Survey, 22.2% of RQHR population aged 12 and over were current smokers (men 22.8%; women 21.6%) in 2005. Approximately 17% reported being daily smokers and 40.3% reported never smoking. Smoking rates were highest in the 20 to 34 year age group. Males had their first cigarette at age 15.2 years on average and females at age 15.7 years. Only 12% of men and 2.5% of women who were university graduates smoked. Lower prevalence of smoking was seen in high income earners in both genders. Approximately 59% of current smokers reported excellent or very good health, compared to 64.3% of non-smokers. Fifty-seven

percent of current smokers reported no leisure time physical activity compared to 57% of non-smokers.

Population and Public Health Services, RQHR is working in areas of policy and programming to encourage smoking cessation and decrease the number of youth becoming addicted to tobacco. This will decrease the burden of tobacco related illness and associated health care costs.

P3. A travel-related possible case of Vaccine-Associated Paralytic Poliomyelitis (VAPP).

*Tania Diener, Shalini Desai, Noel Lowry, Chiranjib Talukdar, Wendy Chrusch, Ben Tan and Zahid Abbas
Population and Public Health Services, RQHR*

A previously healthy 6 month old Canadian-born Chinese boy developed fever and acute flaccid paralysis (AFP) two weeks after receiving oral polio vaccine (OPV) in China. In Canada, prior to travel, he had received 2 routine doses of inactivated polio vaccine (IPV) at 2 and 4 months.

Investigations were conducted during two time periods - during his acute illness in China (immune work-up, stool culture, cerebrospinal fluid (CSF) cell count and chemistry and magnetic resonance imaging (MRI)) and in November-December 2007 upon return to Canada (serology, cultures, electromyogram (EMG) and MRI).

In China, the baseline immune work-up, was normal. Stool culture was only positive for poliovirus3; the isolated strain showed 99.7% homology with the Sabin 3 OPV strain used in China. The CSF white cell count was $12 \times 10^6/L$, protein was 1.43 g/L, and glucose level was normal. CSF viral culture and polymerase chain reaction were not conducted. The MRI in China showed enhancement of the cauda equina, whereupon a diagnosis of Guillain Barre Syndrome (GBS) was made. Canadian investigations revealed polio antibody titers of <1:8 for poliovirus1, 1:32 for poliovirus2 and 1:128 for poliovirus3. The EMG demonstrated denervation to muscles of the left leg, and repeat MRI revealed enhancement (inflammation) of left-sided anterior horn cells of the spinal cord at two levels. Repeat cultures were negative. By May 2008, the child still has only motor paralysis of the left leg.

Lessons Learned:

While initial Chinese investigations were consistent with a diagnosis of GBS, the above clinical, laboratory and imaging findings makes this a possible case of vaccine-associated paralytic poliomyelitis (VAPP). "Although the seroconversion to polio 1 and polio 2 were reported to be >90% after two doses of IPV, the response to polio 3 was significantly less in one study, i.e. 74%. It is therefore possible that a poor response to polio 3 contributed to this patient developing VAPP."

P4. An Evaluation of Fall Injury Hospitalizations and Their Risk Factors among Older Adults in Saskatchewan.

*Sheila Kelly, Shanthi Johnson, Drona Rasali
University of Regina and Saskatchewan Ministry of Health*

Falls are the most common cause of injury-related hospitalization among older adults in Canada. Common types of fall-related injuries include those to the pelvis, hip or thigh. Fall-related injuries are known to be associated with a complex set of risk factors. This study evaluates selected risk factors of fall-related injury hospitalizations among older adults in Saskatchewan. The factors examined were age-groups, gender, residence area (rural, urban, CMA urban and north), presence of diabetes, season and year.

A retrospective, secondary evaluation of Saskatchewan Health's Hospital Separations Database for injury hospitalizations from 1995/96 to 2004/05 was conducted using a Logistic Regression model with several factors.

Crude fall rates for older adults hospitalized in Saskatchewan over the 10-year period were relatively stable at 20-22 falls per 1,000 residents. Falls were the cause of 77.2% of all injuries requiring hospitalization for older adults over the ten-year period. Females had 2.2 times the fall injury hospitalization rates of males. Older adults with diabetes had 1.5 times higher fall injury hospitalization rates than those without the chronic condition. Residence area and season were also significant factors. Detailed evaluation of risk factors associated with fall-related injury hospitalizations may inform fall and injury prevention for evaluators across Canada.

Lessons Learned:

The University of Regina and the Saskatchewan Ministry of Health have collaborated on this project to obtain evaluation outcomes on the important issue of fall-injury hospitalizations among older adults. This study provides an innovative way of combining health surveillance and academic research on a health issue such as fall injury.

P5. Client Satisfaction with the Literacy to Pre-Employment Program at the Saskatoon Food Bank and Learning Centre.

*Jody Shynkaruk, Peter Grant
University of Saskatchewan*

The Literacy to Pre-Employment Program at the Saskatoon Food Bank and Learning Centre has been designed to deal with low literacy levels and the negative outcomes that result from them. Specifically, the goal of this program is to help low-income adults improve their literacy, employability, and life skills. In order to experience the beneficial outcomes of this

program, however, participants must successfully complete it. Because satisfaction with program services can influence participants' success in a program, the goal of the current evaluation was to examine client satisfaction with the Literacy to Pre-Employment Program. Specifically, the following questions were addressed: 1) What are the participants' main reasons for signing up for the program, and did the program help them achieve their goals? 2) Are the participants satisfied with the program? 3) What are the reasons that participants do not attend classes or drop out of the program? and 4) Do the participants have recommendations for program improvement? The results of this evaluation show that the participants feel that the program is beneficial and that it is addressing their educational and employment goals. However, several recommendations are offered that may help increase the number of students successfully completing the program.

Lessons Learned:

The importance of building a rapport with people who access services before an evaluation takes place. Spending time with the students before the evaluation date made them feel more comfortable with me when it came time to discuss the program.

Many of the participants in the program knew people who had previously taken part in the program. Providing them with my contact information to pass on to others was an effective way to gain access to previous program participants.

6. Animal Bites in Regina Qu'Appelle Health Region, an Important Public Health Problem (2006-2008).

*Maurice Hennink, Zahid Abbas, George Koutsoulis
Population and Public Health Services, RQHR*

Animal bites are a substantial public health problem in the Regina Qu'Appelle Health Region (RQHR). Rabies is a deadly viral disease that can be prevented but not cured. Although, rabies is uncommon, injuries due to animal bite are becoming a health burden in the region. The aim of this study is to describe animal bites and post-exposure prophylaxis practices in the health region between 2006 and 2008.

The Population and Public Health Services (PPHS) collect information on all reported cases of animal bites in the health region. Animal bite data from January 1, 2006 to December 31, 2008, were analyzed. This data set included information on the victim's age, gender, place of occurrence and the type of animal. Information also included animal vaccination status, quarantine, post exposure prophylaxis and the outcome.

There were a total of 1,052 animal bites reported between January 1, 2006 and December 31, 2008. Adults 20 years and over accounted for more than 60% of the bite victims. The frequency of bites was higher for

the months of April to August in 2006 and 2007 and from May to September in 2008. Almost 70% of the animal bites were among City of Regina residents. Seventy percent of the bites were attributed to dogs. The number of reported animal bites not due to dogs or cats represented 8.9% of the total reported during the three year period. Ten percent (106) of cases were referred for rabies vaccine series. Nine percent (10) of those referred for rabies vaccination declined vaccination. Eighty-eight percent of the bat bites were referred for rabies vaccine series. The ownership status

could not be determined in 20% of the cases. Follow-up was completed in 82% of the cases within 10 days.

Because of the increase in the number of animal bites and the health care costs associated with the animal bite injuries, accurate data and surveillance is needed.

(Presenters' names are underlined)



News / Congratulatory Briefs:

Dr. Saqib Shahab is the new Deputy Chief Medical Health Officer of Saskatchewan. Saqib joined the Population Health Branch in the Ministry of Health from this month of July. Prior to joining the Ministry, he was the Medical Health Officer for Sunrise Health Region in Saskatchewan. More recently, he completed his Fellowship in Community Medicine from the University of Alberta.

Dr. Valerie Mann joined the Population Health Branch, the Saskatchewan Ministry of Health as the Chief Population Health Epidemiologist in December 2008. Before joining the Ministry, Val was the Director of Planning & Evaluation and Senior Epidemiologist in the Northwestern Health Unit, Ontario.

Dr. Shanthi Johnson, Professor in the Faculty of Kinesiology and Health Studies, University of Regina has been appointed as Associate Dean (Research and Graduate studies) of the Faculty effective from July 2008. Shanthi is also a Faculty of Saskatchewan Population Health Evaluation & Research Unit (SPHERU).

Dr. Drona Rasali, Provincial Chronic Disease Epidemiologist in the Population Health Branch, Saskatchewan Ministry of Health was awarded a Public Health Agency of Canada (PHAC)'s grand prize in the national naming contest for his winning entry, "*Canadian Alliance for Regional Risk Factor Surveillance (CARRFS)*". The CARRFS, established in 2008, is a network of public health stakeholders interested in working together to build capacity for regional/ local area risk factor surveillance in Canada.



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