THE EVALUATION OF VANCOUVER COASTAL HEALTH’S STRATEGIC PLAN TO REDUCE HEAD INJURIES ON THE NORTH SHORE: HOW DOES IT MEASURE UP TO ACCEPTED STANDARDS?

by

Ashton Elizabeth Teulon
BA (Hons) Politics and Development Studies,
Queen’s University 2005

CAPSTONE PROJECT
SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF PUBLIC HEALTH

In the
Faculty of Health Sciences

© Ashton Elizabeth Teulon 2010
SIMON FRASER UNIVERSITY
Fall 2010

All rights reserved. However, in accordance with the Copyright Act of Canada, this work may be reproduced, without authorization, under the conditions for Fair Dealing. Therefore, limited reproduction of this work for the purposes of private study, research, criticism, review and news reporting is likely to be in accordance with the law, particularly if cited appropriately.
Approval

Name: Ashton Elizabeth Teulon
Degree: Master of Public Health
Title of Thesis: The Evaluation of Vancouver Coastal Health’s Strategic Plan to Reduce Head Injuries on the North Shore: How Does It Measure Up to Accepted Standards?

Examining Committee:

Chair: Jeremy Snyder
Assistant Professor of Health Sciences

Stephen Corber
Senior Supervisor
Associate Professor of Health Sciences

Kitty Corbett
Supervisor
Professor of Health Sciences

Marla Steinberg
External Examiner
Sessional Instructor of Health Sciences

Date Defended/Approved: December 1, 2010
Declaration of Partial Copyright Licence

The author, whose copyright is declared on the title page of this work, has granted to Simon Fraser University the right to lend this thesis, project or extended essay to users of the Simon Fraser University Library, and to make partial or single copies only for such users or in response to a request from the library of any other university, or other educational institution, on its own behalf or for one of its users.

The author has further granted permission to Simon Fraser University to keep or make a digital copy for use in its circulating collection (currently available to the public at the “Institutional Repository” link of the SFU Library website <www.lib.sfu.ca> at: <http://ir.lib.sfu.ca/handle/1892/112>) and, without changing the content, to translate the thesis/project or extended essays, if technically possible, to any medium or format for the purpose of preservation of the digital work.

The author has further agreed that permission for multiple copying of this work for scholarly purposes may be granted by either the author or the Dean of Graduate Studies.

It is understood that copying or publication of this work for financial gain shall not be allowed without the author’s written permission.

Permission for public performance, or limited permission for private scholarly use, of any multimedia materials forming part of this work, may have been granted by the author. This information may be found on the separately catalogued multimedia material and in the signed Partial Copyright Licence.

While licensing SFU to permit the above uses, the author retains copyright in the thesis, project or extended essays, including the right to change the work for subsequent purposes, including editing and publishing the work in whole or in part, and licensing other parties, as the author may desire.

The original Partial Copyright Licence attesting to these terms, and signed by this author, may be found in the original bound copy of this work, retained in the Simon Fraser University Archive.

Simon Fraser University Library
Burnaby, BC, Canada
Abstract

In 2010, Vancouver Coastal Health’s (VCH) North Shore (NS) division and the NS Injury Prevention Community Action Committee created a Strategic Plan to reduce head injuries on the NS, but planning for an evaluation of the program was not completed. Evaluation is a vital component in any public health program and this project aims to generate an evaluation for VCH’s Strategic Plan. This project outlines what program evaluation entails, including the types, steps and standards of evaluation. It considers the components of previous injury prevention program evaluations to better inform the design of an appropriate evaluation for the head injury program. The paper presents an evaluation plan based on Patton’s utilization-focused approach (Patton 2008) and designed using the US Center for Disease Control’s (CDC) evaluation framework. The evaluation plan is then examined against the CDC’s four evaluation standards recommended by the CDC: utility, feasibility, propriety, and accuracy.
Acknowledgements

I offer my sincerest thanks to the faculty, staff and my fellow students at the SFU Faculty of Health Sciences, who have combined to create a motivating and rich environment in which to learn and contribute to the field of public health. I owe particular thanks to Dr. Steve Corber and Dr. Kitty Corbett for their perspectives and guidance throughout the process of completing this project.

Special thanks are owed to my parents, for all of their support throughout my education years.
# Table of Contents

Approval .................................................................................................................. ii
Abstract .................................................................................................................... iii
Acknowledgements ................................................................................................... iv
Table of Contents .................................................................................................... v
List of Figures and Tables ....................................................................................... vii

1.0 Introduction ........................................................................................................ 1

2.0 What is Evaluation ............................................................................................. 3
   2.1 What is a program evaluation? ........................................................................ 3
   2.2 Types of evaluation ......................................................................................... 3
   2.3 Steps in program evaluation .......................................................................... 4
   2.4 Standards of evaluation ................................................................................. 6

3.0 Injury Prevention Program Evaluations ............................................................. 8
   3.1 Community Based Injury Prevention Evaluation: The Safe Living Program ..... 8
   3.2 Evaluation of the Waitakere Community Injury Prevention Project (WCIPP) ..... 8
   3.3 Evaluation of the Think First head and spinal cord injury prevention program ........................................................................................................... 9
   3.4 SMARTRISK .................................................................................................... 9
   3.5 Summary ......................................................................................................... 10

4.0 Evaluation Plan: VCH’s Strategic Plan to reduce head injuries on the North Shore .................................................................................................................. 11
   4.1 Engage stakeholders (CDC Step 1) ................................................................. 12
   4.2 Describe the program (CDC Step 2) ............................................................... 14
   4.3 Focus the evaluation design (CDC Step 3) ..................................................... 15
   4.4 Gather and analyze evidence (CDC Step 4) .................................................. 17
   4.5 Justify conclusions (CDC Step 5) ................................................................. 21
   4.6 Ensure use and share lessons learned (CDC Step 6) ..................................... 21

5.0 Results and Discussion: Assessment of the plan against CDC criteria ............ 25

6.0 Conclusion and Reflection ................................................................................ 28

7.0 Next Steps ......................................................................................................... 30
Reference List .......................................................................................................... 31
Appendices ............................................................................................................... 32

Appendix I: VCH Strategic Plan to reduce head injuries on the NS- Logic Model .................................................................................................................. 32
Appendix II: Presentation Counts – Record Sheet................................................. 34
Appendix III: Observation – Record Sheet.......................................................... 35
Appendix IV: Survey Instruments and Parent notice........................................... 36
List of Figures and Tables

Figure 1: US CDC’s Steps in Program Evaluation ................................................................. 4

Table 1: Stakeholder Analysis............................................................................................... 13
Table 2: Key Evaluation Questions and Data Collection Strategy ...................................... 20
1.0 Introduction

Following the completion of the development of a Strategic Plan to reduce head injuries on the North Shore (NS), Vancouver Coastal Health (VCH) was missing a final program component: an evaluation. This project will outline an appropriate evaluation plan based on the existing pieces of the Strategic Plan (i.e. logic model, timeline) and assess how it measures up to best practices in evaluation as set forth by the US Center for Disease Control (CDC).

This paper first describes what program evaluation entails, including the types, the six necessary steps of the CDC model and four main standards that should be followed when designing an evaluation plan: utility, feasibility, propriety, and accuracy. The CDC model is used because of its thoroughness in addressing all of the necessary aspects of evaluation; its foundation in utilization-focused evaluation theory; and its clearly defined steps which logically and systematically take an evaluator through the evaluation across throughout the public health evaluation field. Next, several previous evaluations of injury prevention programs are examined to better inform the VCH evaluation design. Useful strategies that they employed are drawn upon for use in this project’s evaluation plan.

With this theoretical and experiential background in place, an evaluation plan of VCH’s program to reduce head injuries on the North Shore, based on the CDC steps, is provided in detail, including background information, a stakeholder engagement strategy, details on theory and the evaluation design, methodology, how conclusions will be justified and directions for reporting and use. Limitations, challenges and strategies for mitigating these issues will also be discussed.

Finally, the VCH evaluation is assessed against the four aforementioned standards as the CDC recommends using the steps and standards together during an evaluation (CDC 1999). A discussion around realistic expectations for the implementation of the evaluation will follow. Overall, this project outlines key definitions and concepts of evaluation, illustrates the stages of an evaluation, and demonstrates how to assess the quality of an evaluation plan.
The sections of this report follow the steps that were taken to design the VCH evaluation: exploring what is meant by ‘evaluation’; selecting the CDC model as a guideline; identifying other injury prevention program evaluations; drawing useful strategies from them; creating the VCH evaluation plan; and assessing the plan.
2.0 What is Evaluation?

Prior to designing an evaluation plan, it is vital to define what is meant by program evaluation and understand the design options, necessary steps and standards that need to be upheld.

2.1 What is a program evaluation?

Program evaluation is the systematic collection and assessment of information pertaining to a policy or program and its performance. The primary focus is to make judgments about the relevance, effectiveness or progress of an initiative in order to improve future programming decisions and facilitate the achievement of desired results (Treasury Board Secretariat 2004).

There are two main purposes for conducting an evaluation:

1. **Program improvement**: To better enable managers to design or improve their policies, programs and initiatives.
2. **Accountability**: To provide periodic assessments of the effectiveness, intended and unintended impacts, and alternative methods of achieving desired results of a policy, program or initiative.

(Treasury Board Secretariat 2004)

Overall, an evaluation should help program planners and administrators become more focused on results in their decision making.

2.2 Types of evaluation

1. **Process**: A process evaluation focuses on what was done – how a program was implemented; whether or not the activities are delivered as intended; and whether or not the participants are being reached as intended. It seeks to provide information on how to improve the program and is generally conducted in mid-cycle of the program, but can occur throughout the program or at any point in time. Process evaluations are also known as formative or implementation evaluations.
2. **Outcome**: An outcome evaluation focuses on what was changed – whether or not the desired changes are occurring and the goals are being met; identifying who is benefiting; determining what appears to work and not work; measuring any unintended outcomes and which changes can be attributed to the program. Specifically, it may judge relevance, success and cost-effectiveness. It seeks to help make a decision about the overall effectiveness of the program and is conducted towards the end of the cycle. Outcome evaluations are also known as summative or impact evaluations (University of Wisconsin-Extension 2008; Treasury Board Secretariat 2004).

### 2.3 Steps in program evaluation

According to the CDC, adhering to the six steps in program evaluation, as outlined in the diagram below, should facilitate a better understanding of a program's context and improve how evaluations are designed and conducted:

**Figure 1: US CDC's Steps in Program Evaluation**

1. **Engage stakeholders**: Partnerships are integral to public health work and are particularly important for evaluations. Unless stakeholders are engaged, a program's objectives and desired outcomes may not be effectively addressed by an evaluation. An evaluation that fails to address stakeholder concerns or values
may result in findings being ignored or resisted. After the initial engagement, stakeholders should help execute the subsequent evaluation steps (US CDC 1999).

2. **Describe the program**: The program description should include sufficient detail surrounding the goals and objectives of the program being evaluated in order to ensure a correct understanding of its purpose and the strategies it employs. This can be achieved by describing the “needs, expected effects, activities, resources, stage of development and context of the program” (US CDC 1999, 10). A logic model is a useful tool for presenting said aspects (US CDC 1999).

3. **Focus the evaluation design**: A key element of an evaluation is to accurately assess the issues of concern prioritized by stakeholders in a time and resource-sensitive manner. A detailed evaluation plan should include a strategy that is likely to be useful, feasible, ethical and accurate. The design should consider “purpose, users, uses, appropriate questions, methods and agreements” amongst evaluators/stakeholders (US CDC 1999, 12).

4. **Gather and analyze the evidence**: An evaluation should collect a variety of types of information to ensure that its primary users see it as credible. Evidence gathered and analyzed through multiple methods has a higher likelihood of being perceived as believable and relevant by stakeholders. Stakeholder participation can also contribute to increased credibility, greater acceptance of conclusions and improved chances of action based on recommendations (US CDC 1999).

5. **Justify conclusions**: It is vital to achieve agreement amongst stakeholders that conclusions are justified before they will act on findings and recommendations (US CDC 1999).

6. **Ensure use & share lessons learned**: Since lessons learned from an evaluation “do not automatically translate into informed decision-making and appropriate action, deliberate effort is needed to ensure that the evaluation…findings are used and disseminated appropriately” (US CDC 1999, 18).
2.4 Standards of evaluation

The following standards of evaluation outline qualities characteristic of a ‘good’ evaluation. Their application to the VCH evaluation will be reviewed and considered in the conclusion.

1. **Utility**: An evaluation should be timely, informative, influential and serve the information needs of the intended users. This can be accomplished by ensuring that the following aspects have been considered and carried out effectively.
   - Stakeholder identification
   - Evaluator credibility
   - Information scope and selection
   - Values identification
   - Report clarity
   - Report timeliness and dissemination.
   - Evaluation impact

2. **Feasibility**: An evaluation should be realistic, prudent, diplomatic and frugal. This can be accomplished by acknowledging the varied interests of stakeholders; managing evaluation resources judiciously; and emphasizing the following components.
   - Practical procedures
   - Political viability
   - Cost-effectiveness

3. **Propriety**: An evaluation should protect the welfare and individual rights of those involved and affected. Propriety can be ensured through the guidance of legally and ethically sound protocols and agreements and a commitment to resolve conflicts of interest openly and fairly. The following features should be considered to accomplish this.
   - Service orientation
   - Formal agreements
   - Rights of human subjects
   - Human interactions
   - Complete and fair assessment
   - Disclosure of findings
   - Conflict of interest
   - Fiscal responsibility
4. **Accuracy**: An evaluation should produce and communicate technically sound and correct information. To accomplish this and produce findings that are considered correct, the following factors should be addressed.

- Program documentation
- Context analysis
- Described purposes and procedures
- Defensible information sources
- Valid information
- Reliable information
- Systematic information
- Analysis of quantitative information
- Analysis of qualitative information
- Justified conclusions
- Impartial reporting
- Meta-evaluation

(CDC 1999)
3.0 Injury Prevention Program Evaluations

This section provides several examples of evaluations conducted on injury prevention programs. The examples were selected based on a key word search (i.e. Injury Prevention; Unintentional Injury + Evaluation) of the online journal article database Scholars Portal as well as the online search engine Google. Four articles were found that provide insight into approaches that have been used for evaluations of this nature and helped inform the design of the VCH evaluation plan.

3.1 Community Based Injury Prevention Evaluation: The Safe Living Program (1990-1996)

In 1998 an evaluation was conducted on a community-based injury prevention program – The Safe Living Program – in the Shire of Bulla, Victoria, Australia. Despite an expansion of community-based injury prevention programs in Australia and abroad, the authors noted a lack of reporting on injury risk factors and program reach, particularly in the form of controlled studies of community-based injury prevention programs. The authors chose to conduct a prospective controlled study design for their evaluation. They measured both process and outcome factors through randomized, pre-, mid- and post-intervention household surveys and observational methods.

The Safe Living Program evaluation found reductions in self-reported and occupational injuries that could be attributed to the program. The evaluation was not able to produce findings of significant reductions in injury rates in data from the health sector (Ozanne-Smith et al 1998).

3.2 Evaluation of the Waitakere Community Injury Prevention Project (WCIPP)

The Waitakere Community Injury Prevention Project (WCIPP) was evaluated at both process and outcome levels over three years. The process activities consisted of analyzing project documentation, observing participants, interviews and post-implementation case studies. The outcome evaluation analyzed injury statistics, a pre-post telephone survey and a pre-post organization survey.
The evaluation found that the project contributed to changes in safety policy and practice, a reduction in child injury hospitalizations (in contrast to comparison communities) and an increased awareness of injury prevention safety messages and acquired child safety items among Waitakere residents (Coggan et al 2000).

3.3 Evaluation of the Think First head and spinal cord injury prevention program

The Think First head and spinal cord injury prevention program was evaluated for its impact on knowledge, attitudes and self-reported behaviour of 11-15 year old students, specifically regarding injury risks and prevention. Data was collected from students at several schools in Washington State through questionnaire surveys before the intervention, two weeks and three months after. Observational data on seat belt and bicycle helmet use was also collected as students left school property.

The evaluation found that the program had little impact on attitudes and no sustained change in knowledge or self-reported behaviours was evident. For helmet use, the observational data was not significant due to the small number of students riding bicycles. There was no consistent change in observed seat belt use. Findings suggest that alternative strategies be developed to reach adolescents at risk for injuries (Wright et al 1995).

3.4 SMARTRISK

The Ontario Injury Prevention Resource Centre recommends that all evaluations of injury prevention programs be conducted using a utilization-focused approach. They highlight the successful use of this approach by the SMARTRISK organization (Shea 2007). Utilization-focused evaluation is done in collaboration with the specific intended primary users of evaluation findings, for specific intended uses. Utilization-focused evaluations are conducted in order to maximize the use of the evaluation findings by ensuring that program stakeholders take ownership of the evaluation process and take responsibility for utilizing the findings as intended. In this approach, the evaluation facilitator (whether internal or external to the program) develops a relationship with the intended users in order to design the kind of evaluation they need. Patton stresses that this type of evaluation does not require particular evaluation content, methods, or use,
but rather is a process by which an evaluator facilitates the selection of the most appropriate evaluation design by the primary users (Patton 2008).

The Ontario Injury Prevention Resource Centre also notes the importance of logic models for program evaluation, indicating that they have been recommended since the late 1980s and popularized in the injury prevention field since 2007. At SMARTRISK, employees behind all new programs and projects are required to produce logic models with the assistance of internal evaluation experts. This has resulted in increased clarity of goals and operations and improvements in intended outcomes. This planning tool enables evaluators to design effective, appropriate and accurate evaluations (Shea 2007).

3.5 Summary

These examples of injury prevention evaluations illustrate several methods and approaches that are also appropriate for the VCH evaluation and were used in the evaluation plan. The first two evaluations demonstrated that measuring both process and outcome factors can be useful for injury prevention programs. This combination is useful for the VCH evaluation since VCH (Chair of the Injury Prevention Community Action Committee (IP CAC)) expressed an interest in measuring both outputs and short term outcomes. The examples also followed the recommendations of the CDC by using multiple data collection strategies, including surveys, observation and the analysis of injury statistics. The CDC framework for evaluation is used to structure the VCH evaluation, as are the aforementioned multiple forms of data collection. The use of both pre- and post-activity surveys is also present in the examples and allows the VCH evaluation to generate baseline data and compare results over time. In terms of evaluation theory, the SMARTRISK organization emphasized the appropriateness of the utilization-focused approach for evaluations of injury prevention programs. The VCH evaluation is based on this approach and incorporates a program logic model which is also encouraged by SMARTRISK.
4.0 Evaluation Plan: VCH’s Strategic Plan to reduce head injuries on the North Shore

This section outlines the evaluation plan for VCH’s Strategic Plan. It provides context for the evaluation; describes theories of behaviour change; and draws on the evaluation design options, necessary steps, standards and previously completed evaluations that were described above.

Preventable injuries are a significant contributor to mortality and morbidity in British Columbia, largely affecting those between the ages of 1 and 44 and costing the provincial government over $4 billion per year (CAPI 2009). Preventable injuries have been labeled a “silent epidemic” since people do not generally recognize risk in their daily lives, and rather consider preventable injuries to be “accidents” (SMARTRISK 2001). VCH NS was lacking a coordinated effort within the community to address this issue until an Injury Prevention Community Forum, headed by the VCH NS team, was held on January 20th, 2010. Community members came together and identified priorities for preventable injury reduction, selecting head injuries as their first area of focus. From this wider group, a number of key stakeholders came together to form the NS IP CAC.

Head injury prevention is strongly influenced by theories of behaviour change including the Health Belief Model, the Theory of Planned Behaviour and Ecological Perspective. These models help us understand the health and safety-related behaviours of individuals and communities, particularly with regard to helmet use. In the context of the Health Belief Model, a person’s decision to wear a helmet depends on their perceptions of their own vulnerability (how likely they are to crash or fall) and the severity of the problem (how serious can head injuries be), how confident they are in the effectiveness of prevention activities (how effective are helmets in a crash) and whether or not they are exposed to a cue to take action (a role model, someone they know suffering a head injury, media story on head injuries) (Elder et al 1999; Gielen and Sleet 2003).

The Theory of Planned Behaviour emphasizes behavioural intention; a person’s expectations with regards to the outcomes of a behaviour; their own and others’ attitudes towards a behaviour; and their perceived behaviour control (Elder et al 1999; Gielen and Sleet 2003). Applying this theory to helmet use would involve one’s intentions around
wearing a helmet; one’s expectations around the effectiveness of helmets in preventing head injuries; the attitudes others have towards helmet use (i.e. is it smart, un-cool?); and one’s perceptions around access to helmets and the ability to wear one properly.

The Ecological Perspective brings into play the interaction between various levels of influence of a health problem (intrapersonal, interpersonal and community levels) and the reciprocal causation that occurs between individual behaviour and one’s social environment (Elder et al 1999; Gielen and Sleet 2003). For helmet use, this would include personal helmet use, school or community level organization rules on helmet use, and municipal, provincial or federal policies or laws on helmet use. These behaviour change models are used by public health practitioners in the development of head injury prevention programs and influenced the construction of the VCH program.

With this context in mind, the VCH evaluation uses the CDC “Steps in Evaluation” as a framework for the creation and organized presentation of the evaluation plan. The CDC model was selected due to its practice-based origins, straightforward framework and the resulting applicability.

4.1 Engage stakeholders (CDC Step 1)

As per the CDC model, stakeholders can be divided into three main groups: those involved in program operations (i.e. VCH staff, IP CAC members); those affected by the program (i.e. organizations represented by IP CAC members, target audiences of program); and primary users of the evaluation (IP CAC, VCH) (US CDC 1999). Stakeholders from the IP CAC overlap into all three groups, meaning that considering these actors, and VCH staff, is key.

Stakeholder engagement is an important component of any evaluation. It is particularly crucial when basing the evaluation strategy on the utilization-focused approach as it helps to ensure that the evaluation will be relevant and useful to its intended users. The opinions of relevant stakeholders who will be the primary users of the evaluation findings were expressed at a series of monthly stakeholder meetings organized by VCH.

1 The IP CAC held monthly meetings chaired by the author (Ashton Teulon) during an eleven week practicum at VCH from April to July 2010.
Stakeholders were asked what they would be able to contribute and commit to for the Strategic Plan, and which goals and activities were most valued in the program. These became the priority focal points for an evaluation. More broadly, the evaluation questions and data collection techniques and protocol were based on the activities outlined in the stakeholder-created logic model (Appendix I). Due to the author of this project’s position as a stakeholder on behalf of VCH, her deep involvement in the development of the Strategic Plan and unique role of bringing the stakeholders together, the evaluation design has been inherently shaped by the stakeholders. It will be the role of the key stakeholders to carry out the evaluation activities and institute changes to the Strategic Plan based on evaluation findings. It is also worthwhile to note that several of the main stakeholders themselves are parents and coaches. This allowed them to bring forward perspectives of the audiences the plan seeks to target.

Table 1 describes the range of stakeholders involved in the head injury prevention Strategic Plan. Those affected by the program are most interested in reducing the incidence, morbidity and mortality of head injuries amongst themselves, their children or their players. They make up the target audience of the Strategic Plan. The second group – program operators and primary users of the evaluation – are interested in reducing the impact of head injuries in the populations they serve and the associated costs. They are directly involved in evaluation activities and provide a link to target audiences.

### Table 1: Stakeholder Analysis

<table>
<thead>
<tr>
<th>Stakeholder Analysis</th>
<th>Stakeholder</th>
<th>Interest</th>
<th>Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>People Affected</td>
<td>Children/Youth</td>
<td>-Reducing incidence, morbidity, mortality of head injuries amongst themselves</td>
<td>-Primary target audience for helmet use</td>
</tr>
<tr>
<td></td>
<td>Parents</td>
<td>-Reducing incidence, morbidity, mortality of head injuries amongst themselves and their children</td>
<td>-Target audience -Role models for children</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Reduce costs associated with head injuries</td>
<td></td>
</tr>
<tr>
<td>Role</td>
<td>Target audience</td>
<td>Program Operations/Evaluation use</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Coaches</td>
<td>-Reducing incidence, morbidity, mortality of head injuries amongst their players</td>
<td>-Target audience</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Diagnose and treat head injuries (i.e. concussions)</td>
<td></td>
</tr>
<tr>
<td>VCH</td>
<td>-Reducing incidence, morbidity, mortality of head injuries amongst the populations they serve</td>
<td>-Main health care provider (health authority)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Chair of IP CAC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Reduce costs associated with head injuries</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Responsible for majority of evaluation activities</td>
<td></td>
</tr>
<tr>
<td>IP CAC</td>
<td>-Reducing incidence, morbidity, mortality of head injuries amongst the populations they serve</td>
<td>-Direct link to target audiences</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Supporting role for evaluation activities</td>
<td></td>
</tr>
</tbody>
</table>

4.2 Describe the program (CDC Step 2)

In 2010, following the Community Forum, VCH’s NS office developed a two year Strategic Plan to reduce head injuries on the NS through the NS IP CAC. The plan was influenced and shaped by the Health Belief Model, the Theory of Planned Behaviour and Ecological Perspective. It included a detailed logic model, timeline for the implementation of activities and the division of responsibilities among Committee members. In the long term, the purpose of the program is to reduce the impact of head injuries on the NS, including the incidence, mortality and morbidity behind these injuries, thus improving population health and decreasing health costs associated with head injuries. The target populations in the Strategic Plan are children/youth (primary), parents, coaches, recreational staff and policy makers in both public and private sectors.

The plan has a two year preliminary timeline from the Community Forum in January 2010 through to January 2012 but is likely to continue after that time. It consists of action in the following areas: Knowledge Transfer and Public Education; Enforcement; Advocacy and Public Policy; Community Development and Community Capacity Building; and Surveillance, Data Collection and Evaluation. The latter evaluation component is being completed through this Capstone Project.

VCH’s Strategic Plan is currently at the beginning stages of implementation. During the summer months of 2010, community capacity building occurred through the solidification of key membership for the IP CAC. The members participated in the initial Community
Forum in January which included an educational component about injuries, and knowledge transfer continued in monthly meeting where members took turns sharing their research and experiences around head injury prevention with the group. The members also gained skills in program planning through the introduction of tools like logic models and a detailed workplan for the implementation of the strategic plan. The central actors involved in the implementation of the plan are: the NS VCH team under the direction of a team leader, public health nurses, North Shore Safety Council, North and West Vancouver Recreation Centres/Community Services, local by-law officers, RCMP, local ski hills and local school districts\(^2\). Other actors may be involved to a lesser extent. As well, knowledge transfer and public education were initiated through community events and information booths, as well as pieces published in print and online media. Efforts to encourage policy changes on helmet use at schools and recreation centers were also underway in the summer. Additional programs, particularly in schools, are scheduled to begin by the end of 2010. Resources are being drawn from VCH and the other actors as they become available. There is no continuous or confirmed funding specifically available for the Strategic Plan activities. Full details of the Strategic Plan can be found in the Logic Model in Appendix I.

4.3 Focus the evaluation design (CDC Step 3)

i. Purpose and theory of the evaluation

The next step in actualizing the effort to reduce the frequency, mortality and morbidity of preventable head injuries on the NS is designing an evaluation plan. Evaluation is a critical step in public health practice as it allows us to measure the successes of a program, as well as identify areas where improvement is needed. The intended consequences of this evaluation are to enable VCH and the IP CAC to improve its future helmet-promotion activities and strategies and highlight any successes in an effort to attract more funding for and attention around head injury prevention on the NS. These evaluation goals were generated in collaboration with staff at VCH NS and aim to measure the success of the program and to address the ongoing need for funding in order to continue, and potentially expand, the program. The intended users of the evaluation are therefore VCH and the IP CAC, as well as other external actors who may

\(^2\) These actors will be referred to in this evaluation plan as “the stakeholders” or “the IP CAC”.
want to implement similar strategies in other communities. The former, program stakeholders, will have the responsibility of applying evaluation findings and implementing recommendations.

A utilization-focused approach influenced the VCH evaluation design to motivate the stakeholders and ensure that the findings are seen as credible and are used effectively to prevent the program from stalling, as progress did following the gap analysis a few years ago. From the beginning of the VCH program – the Community Forum – stakeholder participation has been at the forefront. While it would have been ideal to directly engage the Committee at each step of the evaluation plan design, this was not feasible due to the timeline of creating this plan and the time-constraints of the Committee members. Despite this lack of direct input, the stakeholders’ ideas and priorities were made clear at the monthly meetings and were thus available to be incorporated into the selection of foals and indicators. This evaluation incorporates this approach as much as possible by acknowledging the primary stakeholders and users in preliminary decision making on evaluation strategies and including them in the actual evaluation process through data collection and analysis, the review of the final evaluation report and finally in actualizing any changes recommended by the evaluation findings. This ensures continual involvement of the stakeholders throughout the evaluation process. VCH committed to taking on much of the responsibility for evaluation activities and other members of the IP CAC, particularly those involved in the school presentations planned to start in fall 2010, also committed to helping implement the evaluation (i.e. surveys). The intended use of the VCH evaluation is to answer the evaluation questions listed in section 4.5 and make necessary changes to the programs design if it is not successfully reaching its target outcomes.

This evaluation is designed to be both formative and summative in nature. The formative, or process focus will be on measuring outputs and the summative, or outcome focus will be on measuring the short term outcomes. It would be useful to complete a final outcome assessment to measure the longer term impacts of the Strategic Plan at the conclusion of the two year period, but that will not be outlined in this evaluation plan.

**ii. Evaluation questions**
The topics of the evaluation questions were developed through an analysis of the VCH program logic model created in collaboration with the IP CAC and past discussions with the team leader at VCH NS. For the process side of the evaluation, there will be one central evaluation question: 1. Is the plan reaching its target audience? The target audience includes children/youth, parents, coaches and policy makers. The indicators for this question are the number of: presentations in schools; community events with a head injury booth; free helmets given away; tickets handed out by the RCMP and Bylaw officers for non-helmet use; and policies changed.

For the outcome side of the evaluation, there are three central evaluation questions, the first of which is: 2. Has the impact of head injuries been reduced (NS population level)? The indicators for this question are the incidence, morbidity and mortality associated with head injuries. The second question is: 3. Has knowledge of head injuries and prevention strategies increased among children, youth parents and coaches? The indicators for this question are the number of persons attending presentations or community event booths and their knowledge level. The third outcome question is: 4. Has helmet-use behaviour changed among children, youth and parents? The indicator for this question is the number of persons using helmets.

See Table 1 for a summary of the questions, their indicators and how and by whom they will be measured.

4.4 Gather and analyze evidence (CDC Step 4)

i. Data collection techniques & protocol

A variety of data collection techniques that are appropriate to different stakeholders will be used to amass both quantitative and qualitative data. Document reviews will be conducted to collect data on the incidence of head injuries, using the VCH Public Health Surveillance Unit reports and data on the number of non-helmet use tickets handed out from RCMP and By-law services records. These reviews will be conducted retrospectively to collect pre-program data as well as annually after that point, by VCH. This will provide a baseline against which to compare mid-program progress. The British Columbia Injury Research and Prevention Unit’s (BCIRPU) online data tool will be
used to collect data on mortality and morbidity of head injuries on the NS. Counts will be conducted to collect quantitative data from IP CAC members on the number of students reached through school presentations, the number of events attended (i.e. booth set up), the number of free helmets given away and the number of persons attending presentations and booths at events. This data will be collected by VCH through IP CAC members as they make presentations and man event booths. IP CAC members will also contribute to a count of the number of helmet policies changed that affect the NS. The counts will be ongoing throughout the program, but will be tallied and analyzed annually. Data collection by observation will be used to measure changes in the number of children/youth/parents wearing helmets on the NS. It will be conducted as soon as possible, and then annually at various seasonal locations (i.e. routes to schools, skate parks, rinks, popular skateboarding/bicycling locations). Observation data collection will take place bi-monthly. This data will consist only of number counts, with no identifying data collected aside from the age (i.e. child, youth, parent).

Brief pre- and post- school presentation surveys will be administered to students (children and youth). Parents will receive a post- school presentation survey. Prior to the presentation they will have received a head injury handout and notice from the school that their child will be completing in pre- and post-presentation anonymous surveys. At this point, parents will have the option of contacting the school if they would prefer that their child not participate in the surveys. The aim of these surveys is to measure knowledge levels of head injuries and actual helmet use. An annual survey on head injury knowledge will also be administered to a sample of coaches from school and community sports leagues where head injuries (specifically concussions) are prevalent (i.e. football, rugby, hockey, soccer). The surveys will be tailored to each specific audience and will be distributed and collected through schools (and recreation centres for community coaches). Confidentiality will be maintained to the highest degree possible through anonymization of survey results. If they so choose, those who complete the survey will have their names entered in a draw for an audience specific prize given out annually:

- Coaches: $100 cash for their team
- Children: $50 Toys R Us gift card
- Youth: One Ipod
- Parents: $50 Chapters gift card
A 90% response rate for students and a 60% response rate for parents are realistic goals and will provide an adequate sample. This is based on the fact that students complete the surveys at school and parent surveys are preceded by educational information and notice of the school presentations. For coaches, a 75% response rate is the goal. While not calculated based on specific confidence intervals, these rates were chosen because they are feasible to reach and will provide a good sense of what is happening in terms of knowledge around head injuries. The parent surveys will also contain optional questions pertaining to demographics (age, gender, ethnicity, income level).

The data collection strategy is based on initial consultations with the team leader at VCH NS around preferred methods, the human and financial resources available and the commitment levels of members of the IP CAC. The data collection methods are relatively straightforward and do not require professional direction to be conducted effectively. They also demand little of IP CAC members above and beyond their pre-existing commitment to implementing the program activities (i.e. organize the distribution & collection of surveys at schools they present at).

For a complete table of key evaluation questions and the data collection strategy, see Table 2 below.

See Appendix II and III for presentation count and observation recording sheets. See Appendix IV for survey instruments.

*ii. Analysis plan*

The majority of the data analysis will be completed by VCH NS. The data collected from the surveys will be stratified by demographic characteristics including age, gender, ethnicity and income level where possible. For the process side of the evaluation, the counts and ticketing document review will provide quantitative data to be tallied and analyzed to determine whether the plan is reaching its target audiences. It is useful for the stakeholders to understand which activities of the Strategic Plan are being implemented successfully.
For the outcome side of the evaluation, the remaining document review, counts, online data tool, observations and survey results will be analyzed to determine the extent to which the Strategic Plan’s activities have reduced the impact of head injuries, increased knowledge and influenced behaviour change. The data collected during the pre-plan period will be used as baseline data against which prospective data will be compared. Since the evaluation protocol calls for continual data collection, mostly on an annual basis, analysis of the success of the Strategic Plan can continue as time progresses. In this sense, the evaluation becomes a part of the regular workings of the Strategic Plan. This will increase stakeholder involvement and ownership of the evaluation process, ultimately contributing to the justification of the evaluation conclusions later on.

Table 2: Key Evaluation Questions and Data Collection Strategy

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Indicator</th>
<th>Data Source</th>
<th>Data Collection Method or Tool</th>
<th>Who</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROCESS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1. Is the plan reaching its target audience?</td>
<td># students attending / # school presentations</td>
<td>-IP CAC data</td>
<td>-counts</td>
<td>VCH</td>
<td>annually after yr 1</td>
</tr>
<tr>
<td></td>
<td>-# community events w/ head injury booth</td>
<td>-RCMP/Bylaw records</td>
<td>-document review -counts</td>
<td>VCH</td>
<td>pre-plan &amp; annually</td>
</tr>
<tr>
<td></td>
<td>-# free helmets given out</td>
<td>-IP CAC</td>
<td></td>
<td>VCH</td>
<td>annually after yr 1</td>
</tr>
<tr>
<td></td>
<td>-# tickets handed out for non-helmet use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-# policies changed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Links to outputs: Indicators match Logic Model outputs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OUTCOME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2. Has impact of head injuries been reduced?</td>
<td>-incidence (ER/Doc visits)</td>
<td>-VCH Public Health Surveillance Unit</td>
<td>-document review (of stats)</td>
<td>VCH</td>
<td>pre-plan &amp; annually</td>
</tr>
<tr>
<td></td>
<td>-morbidity</td>
<td>-BCIRPU</td>
<td>-online data tool</td>
<td>VCH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-mortality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Links to outcomes: Improved population health on the North Shore; Reduced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation Question</td>
<td>Indicator</td>
<td>Data Source</td>
<td>Data Collection Method or Tool</td>
<td>Who</td>
<td>When</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------------------------</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>impact of head injuries on the North Shore</td>
<td>Q3. Has knowledge of head injuries &amp; prevention increased?</td>
<td>- # attending presentations/booths</td>
<td>-IP CAC</td>
<td>-IP CAC (RCM P/public health nurses)</td>
<td>- presentations/events</td>
</tr>
<tr>
<td></td>
<td>- Children</td>
<td>-pre and post knowledge level</td>
<td>-children, youth, parents, coaches</td>
<td>-surveys</td>
<td>-pre &amp; post presentation</td>
</tr>
<tr>
<td></td>
<td>-Youth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Coaches (concussions)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Youth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Links to outcomes: Improved attitudes and safer behaviours; Role modelling of parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.5 Justify conclusions (CDC Step 5)

The conclusions of the evaluation will be justified by stakeholders through their participation in data collection and analysis, as well as through the participatory process by which the findings will be reported on and disseminated. This process requires direct stakeholder engagement and ownership over the final report, ensuring agreement amongst stakeholders that the resulting conclusions and recommendations are justified.

See section 4.6 below for details on this process.

4.6 Ensure use and share lessons learned (CDC Step 6)

i. Reporting and use strategy
Reporting and use is an integral part of the evaluation of the head injury prevention Strategic Plan. The findings from this evaluation will have instrumental use and should help to inform future decisions around the head injury prevention strategies underway. The main users of the evaluation information will be VCH and the other key members of the IP CAC. Internally, the evaluation findings will help identify program improvement needs and strategies, support annual and long-range planning and suggest outcome targets. Externally, the findings can be used to seek out and increase funding for the program. Overall, the reporting and dissemination strategy that is detailed below will build evaluation capacity since the users gain experience working collectively and moving through the steps of producing a final, agreed upon report and then taking that product and distributing it through the channels available to each person. The users actually put the evaluation findings to use and also learn something from the evaluation itself that can perhaps lead directly to program changes or an enhanced ability to conduct evaluations in the future. The goal of this approach is to create and sustain processes that make quality evaluation and use routine in an organization (Patton 2008).

There are four central components of evaluation capacity:

- Knowledge (understanding evaluation)
- Skills (know how to do it)
- Attitudes (view evaluation positively)
- Behaviours (actually doing evaluation)

(Patton 2008; Steinberg 2010)

In order to ensure these components are all included, the evaluation has considered key stakeholders throughout the planning process and involved them in the plan for actual implementation (of the evaluation). Since evaluation has been on the agenda since the beginning of this program, stakeholders are prepared for it and this should contribute to a positive attitude toward evaluation. This evaluation plan has clearly set out the steps of evaluation and examples that contributed to the plan, providing stakeholders with a usable framework for conducting future evaluations. Stakeholders, with the guidance of this evaluation plan and VCH NS, will gain the skills necessary to complete an evaluation and they will acquire behavioural experience as they actually conduct parts of the evaluation.

The reporting and dissemination format will further engage stakeholders and support evaluation capacity building:
1. First draft of the assessment report completed by VCH NS
2. Draft report circulated to key stakeholders on the IP CAC
3. IP CAC meeting to discuss the draft report and any recommended changes
4. Second draft of the assessment report completed by VCH NS, incorporating recommended changes
5. Second draft report circulated to key stakeholders on the IP CAC
6. IP CAC members may email any final recommendations to VCH NS
7. Final draft of the assessment report completed by VCH NS
8. Oral presentation with powerpoint of highlights of final report to VCH administration, with the objective of securing more funding for head injury prevention
9. Copies of the final report distributed to all members of the IP CAC for their own distribution. A ‘Summary of Findings’ document will be created by VCH NS and sent to local NS media outlets including NS News and NS Outlook newspapers.

ii. Limitations, challenges, mitigation strategies

a) Lack of stable funding: The head injury prevention Strategic Plan lacks a stable source of funding from VCH and the IP CAC. While the responsibilities and costs associated with the program’s activities have been absorbed by the IP CAC, much of the evaluation work will fall on VCH NS who does not have a budget specifically for injury prevention.

Mitigation strategy: The simple design of the evaluation and its low cost methods of data collection will help keep evaluation costs to a minimum. The IP CAC also has a solid volunteer pool (NSSC, NVRC) to help with program activities. This may increase the available time of committee members who can participate in more time consuming analysis and administrative evaluation tasks rather than hiring and paying an outside agent. Many of the committed key stakeholders (RCMP, public health nurses) also have some kind of budget and mandate for reducing the impact of head injuries, suggesting that additional funding may be available internally.

b) Lack of human resources: Since the author’s departure as a practicum student at VCH, there is no staff member solely committed to continuing the head the Strategic Plan and its activities and evaluation. Since VCH has headed the IP CAC efforts on the NS, there is concern that the program itself will not continue to be implemented effectively. There also may not be a staff person able to take on the assigned responsibilities of evaluation.

Mitigation strategy: As mentioned above, the volunteer pool may free up time for IP
CAC members who may be able to take on additional responsibilities. Moreover, the bulk of the evaluation analysis will be conducted in the spring, marking the end of the first year of the program. With this timeline, it may be possible for VCH to hire a practicum student from the Master of Public Health programs at Simon Fraser University or the University of British Columbia to lead the evaluation analysis and drafting of the assessment report. The current project lead at VCH NS is an identifiable “champion” within the IP CAC and VCH NS who understands and values performance measurement and evaluation. This individual is committed to evaluating the projects they are involved with, which will help to ensure that the evaluation is carried out successfully despite this barrier.

c) Bias inherent in self-reporting: Since many of the survey questions rely on students’, parents’ and coaches’ self-reporting of knowledge and behaviours, a bias in responses may affect the accuracy of the findings. This is particularly true due to the current legislation requiring helmet use, which may lead to over-reporting of actual helmet use. **Mitigation strategy:** Any negative affect on accuracy due to self-reporting biases can be lessened through the use of multiple forms of data collection. Aside from surveys, observational data and counts can help determine actual helmet use and the number of persons being reached by educational activities.
5.0 Results and Discussion: Assessment of the plan against CDC criteria

In the first section, *What is Evaluation?*, four standards of evaluation were described: utility, feasibility, propriety, and accuracy. The VCH evaluation plan contained in this document measures up well against these standards. In terms of utility, the evaluation has been planned early on in program implementation and can be conducted in a timely and appropriate manner. It will provide valuable information to the stakeholders – its intended users – and will serve their needs of program improvement and the attraction of funding and attention to the head injury prevention program. The stakeholders have been identified and also act as the primary evaluators, ensuring credibility. The evaluation questions do not require significant value judgments in their analysis, preventing confusion when interpreting findings. A clear reporting and dissemination strategy will ensure that essential information is understood and used effectively. The entire evaluation process encourages stakeholders to act in response to the evaluation findings and use the information gained to improve programming.

The evaluation will be feasible due to its realistic goals, methods and expectations, based on stakeholder input and agreement, as well as available resources. More specifically, it is practical in that the work associated with carrying out the evaluation is limited to an amount that the stakeholders have expressed they can take on and the data collection will occur as much as possible during pre-existing program activities (pre- and post- presentation surveys, counts at events). The interests of all stakeholders and the target audiences of the injury reduction program have been considered to ensure cooperation and prevent setbacks in data collection (i.e. consent for survey participants; anonymity). The evaluation relies on currently committed IP CAC members for implementation, rather than hiring an external evaluator. This will generate valuable information while keep costs at a minimum.

With regards to propriety, the evaluation protects the welfare of the target audiences through its service-oriented purpose of helping organizations/actors reduce the impact of head injuries. The rights of individuals are protected through respectful interactions between evaluators and participants and measures such as gaining informed consent.
from survey participants and maintaining anonymity amongst responses. Ensuring the following will be up to the evaluators and are facilitated by the reporting and dissemination strategy: complete and fair assessment and disclosure of findings, handling conflicts of interest openly and fiscal responsibility. This evaluation could have increased its propriety by setting out a formal agreement among stakeholders wherein each party agreed to their program and evaluation-related obligations. Currently, only informal agreements have been reached.

Finally, the evaluation is designed to achieve accurate results and communicate technically sound information to stakeholders and the broader public. This is accomplished by the VCH evaluation through accurate documentation of the program being evaluated and its context and a detailed description of the aims, steps of the evaluation plan and information sources being used. The data collection procedures are clearly outlined and amass both quantitative and qualitative data through multiple tools to help ensure validity and reliability. The data collection protocol is straightforward, warranting systematic information and the analysis plan will answer the evaluation questions effectively. The reporting process includes the justification of conclusions by the stakeholders and should uphold impartiality due to the involvement of multiple parties. Lastly, the accuracy of the evaluation is solidified through a preliminary meta-evaluation in the form of this conclusion. The evaluation plan could be further strengthened by a more complete meta-evaluation following its full implementation.

While the full evaluation plans of other injury prevention program (Section 3.0) are not readily available, one can conclude that the VCH evaluation plan presents an improved evaluation design. Only one of the evaluations used a utilization-focused or stakeholder-focused design which has been shown to increase utility and feasibility in particular. The VCH evaluation prioritized the use of this concept throughout the plan. Moreover, none of the pre-existing evaluations followed a proven framework or model for evaluation, whereas the VCH evaluation described, justified and utilized the CDC model.

This evaluation plan has been designed to be as useful, feasible, ethical and accurate as possible through careful application of the experience-tested CDC model steps, the influence of the utilization-focused approach that emphasizes the importance of stakeholder engagement, and the identification of potential barriers and possible
solutions. Despite these efforts, it would be unrealistic to assume that the evaluation plan will be implemented perfectly as planned. In practice, evaluations are often very difficult to implement and the successful execution of this plan is dependent on serious commitment and participation from all stakeholders, resources for this currently unfunded program and some sort of cementing factor to provide leadership and ensure that both the program and evaluation continue as planned.
6.0 Conclusion and Reflection

Evaluation is a vital component in any public health injury prevention program. This evaluation plan for VCH’s Strategic Plan to reduce head injuries on the NS has been informed by an investigation of what evaluation means and entails. Details of the evaluation plan were influenced by the CDC model and best practices and examples of injury prevention program evaluations in order to improve the quality of the design, and ultimately the findings. The theory, questions and methodology behind the evaluation plan were influenced by stakeholder engagement, more specifically the priorities, commitment levels and resources available from key stakeholders VCH and the members of the IP CAC. Strategies on reporting and use, and the mitigation of challenges and limitations will help to ensure that the evaluation is conducted successfully and that the findings and recommendations are used effectively and appropriately. The evaluation plan was then assessed against four standards of evaluation as outlined by the CDC and realistic expectations for the implementation of the evaluation plan were discussed. This evaluation plan represents the final piece in VCH’s Strategic Plan to reduce head injuries. It also illustrates a useful, feasible, ethical and accurate example of evaluation.

My perspective as a key contributor to VCH’s head injury reduction strategy and the main coordinator of stakeholder activities and communication during my practicum put me in a unique position to create a realistic and usable evaluation plan for VCH and the IP CAC. I am particularly committed to this evaluation project because of my desire to see the head injury prevention plan I helped create, succeed. This evaluation seeks to enable VCH and the IP CAC to improve its future helmet-promotion activities and highlight successes in an effort to attract more funding for and attention around head injury prevention on the NS. It also illustrates how the CDC’s evaluation steps and standards can be used to develop and assess an actual evaluation plan. The latter point expands this evaluation plan’s applicability to other injury prevention programs requiring future evaluation.

Throughout the process of completing this Capstone Project, I was able to build on the Strategic Plan and gain valuable experience in evaluation. This deepened my understanding of strategic and evaluation planning and will assist me in future public
health endeavours, enabling me to recognize and pursue quality program components and approaches.
7.0 Next Steps

This project provides a solid foundation for an evaluation of VCH’s Strategic Plan to Reduce Head Injuries on the NS, but does not present an entirely ready-to-use plan. Before actual implementation of this evaluation plan, there are some steps that need to be completed:

1. The evaluation plan should be distributed to VCH and all Committee members to allow for greater stakeholder engagement, feedback on each step of the plan, and the making of appropriate alterations to better suit the needs, goals and available resources of the stakeholders.

2. The stakeholders should collectively prioritize the evaluation questions and data collection tools that they feel are the most important and/or feasible. This will allow the evaluation process to move forward in the case that available resources restrict the Committee from acting on all of the components outlined in this plan.

3. A workplan and budget should be generated by the stakeholders to determine financial and human resources that will be needed in both the short and long term for evaluation. This should also set out roles and responsibilities for each stakeholders and a timeline for the evaluation.

4. The survey instruments in this evaluation plan should be reviewed and modified by the stakeholders. Pilot-testing of the surveys should also occur prior to their utilization.
Reference List


Vancouver Coastal Health (VCH) 2010. Strategic Plan to reduce head injuries on the North Shore. Completed by Ashton Teulon, VCH Practicum student and Candidate, MPH, Simon Fraser University, under the direction of Jean Thompson, Team Leader, Healthy Living and Community Development, Community & Family Health, VCH.

## Appendices

### Appendix I: Injury Prevention on the North Shore: Strategic Plan to Reduce Head Injuries – June 2010 (VCH 2010)

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Short-term Outcomes</th>
<th>Intermediate Outcomes</th>
<th>Long-term Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Strategic Planning/Priority Setting</strong></td>
<td></td>
<td>Key priorities identified</td>
<td>Increased ability to develop and implement prevention programs on NS</td>
<td>Enhanced commitment/capacity to implement prevention programs (NS &amp; VCH)</td>
</tr>
<tr>
<td></td>
<td>-Identify priorities of community partners</td>
<td></td>
<td>A strategic plan for head injury prevention</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Identify target audiences</td>
<td></td>
<td>Best practices documented</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Develop strategic plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Develop report on best practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Knowledge Transfer/Public Education</strong></td>
<td></td>
<td># schools/camps/rec sports reached by presentations</td>
<td>Increased staff &amp; public knowledge of risks and prevention strategies</td>
<td>-Reduced impact of head injuries on the North Shore (Incidence, mortality, morbidity)</td>
</tr>
<tr>
<td></td>
<td>-Educate VCH staff</td>
<td></td>
<td># and type of presenters trained</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Partner with VCH/health/community staff to:</td>
<td></td>
<td># and type of helmet fitters trained</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Educate children through schools/camps/sports (helmet use)</td>
<td></td>
<td># sports organizations/leagues training their coaches</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Educate coaches/instructors/rec staff on helmet use &amp; concussions</td>
<td></td>
<td># hours of volunteer ‘time’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Educate parents/children/community members at community events/meetings</td>
<td></td>
<td># community events attended</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Raise direct awareness for parents (eg. District Parent School newsletters, CCRCs)</td>
<td></td>
<td># instances of media coverage</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Partner with media/shops to increase knowledge</td>
<td></td>
<td>#shops participating</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Inputs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Outputs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Short-term Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Intermediate Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Long-term Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rewards</td>
<td>Enforcement</td>
<td>Advocacy and Public Policy/Local By-laws</td>
<td>Community Development/Capacity Building</td>
<td>Surveillance/Data Collection/Evaluation</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>------------------------------------------</td>
<td>----------------------------------------</td>
<td>-----------------------------------------</td>
<td></td>
</tr>
<tr>
<td>- Already completed gap analysis</td>
<td>- Educate public on laws, regulations, bylaws</td>
<td>- #/type positive rewards handed out</td>
<td>- Increased knowledge of policies/laws</td>
<td>- Baseline data</td>
<td></td>
</tr>
<tr>
<td>- VCH Model Paper on IP</td>
<td>- Expand positive reward systems</td>
<td>- # tickets handed out</td>
<td>- Increased incentives for helmet use</td>
<td>- Database of NS action</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Continue with ticketing/fines</td>
<td>- # events/presentations involving law enforcement staff</td>
<td></td>
<td>- Program evaluation (process)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Increased surveillance, monitoring and evaluation of head injury prevention programs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Improved decision-making to enhance effectiveness of programs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Improved population health on the North Shore</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Decreased health costs associated with head injuries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Improved public compliance/support for enforcement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Enhanced local safety policies and regulations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Increased participation in IP committee</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Increased empowerment of community</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Increased use of helmets (esp. high risk, low income)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Improved and sustained community action</td>
</tr>
</tbody>
</table>
Appendix II: Presentation Counts – Record Sheet

Presentation date:

Presentation time:

Presentation location:

Names and organizations of presenters:

Age group:

Number of students at the presentation:

Number of parents at the presentation:

Number of pre-presentation student surveys handed out:

Number of pre-presentation student surveys completed and returned:

Number of post-presentation student surveys handed out:

Number of post-presentation student surveys completed and returned:
Appendix III: Observation – Record Sheet

Observation date:

Observation time:

Observation location:

Names and organizations of observers:

**Bicycles**

Number of adults on bicycles seen wearing helmets: _____/ out of _______ total riders.  
(estimated age 19 years old+)

Number of parents or adults riding bicycles with children/youth seen wearing helmets: _____/ out of _______ total riders.  
(do not double count with ‘adults’)

Number of youths on bicycles seen wearing helmets: _____/ out of _______ total riders.  
(estimated age 10 – 18)

Number of children on bicycles seen wearing helmets: _____/ out of _______ total riders.  
(estimated age 0 – 9)

**Skateboards**

Number of adults on skateboards seen wearing helmets: _____/ out of _______ total riders.  
(estimated age 19 years old+)

Number of parents or adults riding skateboards with children/youth seen wearing helmets: _____/ out of _______ total riders.  
(do not double count with ‘adults’)

Number of youths on skateboards seen wearing helmets: _____/ out of _______ total riders.  
(estimated age 10 – 18)

Number of children on skateboards seen wearing helmets: _____/ out of _______ total riders.  
(estimated age 0 – 9)
Appendix IV: Survey Instruments and Parent notice

Head Injury Prevention School Presentation – Parent notice on student surveys

Dear Parents,

Vancouver Coastal Health and the North Shore Injury Prevention Community Action Committee will be giving a presentation to your child’s class at school on head injuries and strategies to prevent them. The content will be age appropriate and we invite you to attend the presentation if you are interested! The presentation will take place on …date… at ….time…. You should have also received a head injuries information handout with this notice. If you have not, please contact your child’s school for a copy.

Before and after the presentation, your child will be asked to complete a very brief survey to help us measure that age group’s knowledge about head injuries and helmet use. The surveys will not collect your child’s name or any personal information. To show our appreciation, your child’s name will be entered in a draw for either a Toys R Us gift card or an Ipod (prize is age dependent). If you would prefer that your child not participate in the survey or not have their name entered in the draw, please contact your child’s school.

We will also be sending out a post-presentation survey for parents as a follow-up to the information handout you should have received. If you do not receive the parent survey, please contact your child’s school. Those completing the parent survey will be entered in a draw for a Chapters gift card.

If you have any further questions, please contact your child’s school or Vancouver Coastal Health at xxx-xxx-xxxx.

Thank you,
Vancouver Coastal Health, North Shore
North Shore Injury Prevention Community Action Committee
Head Injury Prevention School Presentation – Student Surveys (pre-presentation)

Directions for teachers:
Please hand out the grade-specific survey to each student and have them completed and collected before the presentation. Please ask students not to write their names on the survey, but you may record all the names of those who completed the survey to have their name entered in a prize draw. We will contact your school if one of your students has won.

- grades 1-3: $50 Toys R Us gift card
- grades 4-7 & 10: Ipod

*For Gr. 1-3, teachers are asked to verbally ask the questions to the students. The students should be encouraged to ask questions if they do not understand what they are being asked to answer. After the question is posed, teachers should ask students to close their eyes and raise their hand to select a response option. The teacher should record the responses.

Gr. 1-3
1. Can your brain always heal from injuries?
   Yes/No

2. You should always wear a helmet when bicycling/skateboarding, even if you are close to home or school.
   True/False

3. You should always tell a parent, teacher or other adult if you fall and hit your head, even if you feel ok after.
   True/False

4. Do you wear a helmet when bicycling or skateboarding? (circle one)
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. I never ride a bicycle or skateboard

5. Do your parents wear a helmet when bicycling or skateboarding? (circle one)
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. My parents never ride a bicycle or skateboard

Gr. 4-7
1. Do you know what the 2-V-1 technique is?
   Yes/No

2. Can your brain always heal from injuries?
   Yes/No
3. Most professional athletes who skateboard, bike, ski or snowboard wear helmets. True/False

4. Most head injuries from bicycling/skateboarding occur very close to one’s home. True/False

5. On public property, helmets are mandatory (it's the law) when:
   a. Bicycling
   b. Skateboarding
   c. Bicycling and Skateboarding
   d. Neither

6. Do you wear a helmet when bicycling or skateboarding? (circle one)
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. I never ride a bicycle or skateboard

7. Do your parents wear a helmet when bicycling or skateboarding? (circle one)
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. My parents never ride a bicycle or skateboard

Gr. 10
1. Do you know what the 2-V-1 technique is? Yes/No

2. Can your brain always heal from injuries? Yes/No

3. Most/all professional athletes who skateboard, bike, ski or snowboard wear helmets. True/False

4. How often should you replace a helmet (that has not been in a crash)?
   a. Every year
   b. Every five years
   c. Every ten years
   d. When it looks worn out or damaged

5. Most head injuries from bicycling/skateboarding occur very close to one's home. True/False

6. On public property, helmets are mandatory (it's the law) when:
   a. Bicycling
   b. Skateboarding
   c. Bicycling and Skateboarding
   d. Neither
7. A bicycle helmet provides good protection for all sports where helmets are worn. True/False

8. Do you wear a helmet when bicycling or skateboarding? (circle one)
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. I never ride a bicycle or skateboard

9. Do your parents wear a helmet when bicycling or skateboarding? (circle one)
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. My parents never ride a bicycle or skateboard
Head Injury Prevention School Presentation – Student Surveys (post-presentation)

Directions for teachers:
Please hand out the grade-specific survey to each student and have them completed and collected directly after the presentation. Please ask students not to write their names on the survey, but you may record all the names of those who completed the survey to have their name entered in a prize draw. We will contact your school if one of your students has won.

- grades 1-3: $50 Toys R Us gift card
- grades 4-7 & 10: Iphone

*For Gr. 1-3, teachers are asked to verbally ask the questions to the students. The students should be encouraged to ask questions if they do not understand what they are being asked to answer. After the question is posed, teachers should ask students to close their eyes and raise their hand to select a response option. The teacher should record the responses.

Gr. 1-3
1. Can your brain always heal from injuries?
   Yes/No

2. You should always wear a helmet when bicycling/skateboarding, even if you are close to home or school.
   True/False

3. You should always tell a parent, teacher or other adult if you fall and hit your head, even if you feel ok after.
   True/False

4. After this presentation, will you wear a helmet when bicycling or skateboarding? (circle one)
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. I never ride a bicycle or skateboard

5. What was your favorite part of the presentation?

Gr. 4-7
1. Do you know what the 2-V-1 technique is?
   Yes/No

2. Can your brain always heal from injuries?
3. Most professional athletes who skateboard, bike, ski or snowboard wear helmets. True/False

4. Most head injuries from bicycling/skateboarding occur very close to one’s home. True/False

5. On public property, helmets are mandatory (it’s the law) when:
   a. Bicycling
   b. Skateboarding
   c. Bicycling and Skateboarding
   d. Neither

6. After this presentation, will you wear a helmet when bicycling or skateboarding? (circle one)
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. I never ride a bicycle or skateboard

7. What was your favorite part of the presentation?
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________

Gr. 10
1. Do you know what the 2-V-1 technique is? Yes/No

2. Can your brain always heal from injuries? Yes/No

3. Most/all professional athletes who skateboard, bike, ski or snowboard wear helmets. True/False

4. How often should you replace a helmet (that has not been in a crash)?
   a. Every year
   b. Every five years
   c. Every ten years
   d. When it looks worn out or damaged

5. Most head injuries from bicycling/skateboarding occur very close to one’s home. True/False

6. On public property, helmets are mandatory (it’s the law) when:
a. Bicycling
b. Skateboarding
c. Bicycling and Skateboarding
d. Neither

7. A bicycle helmet provides good protection for all sports where helmets are worn. True/False

8. After this presentation, will you wear a helmet when bicycling or skateboarding? (circle one)
a. Rarely
b. Sometimes
c. Often
d. Always
e. I never ride a bicycle or skateboard

9. What was the most interesting part of the presentation?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

10. What is one way that the presentation could be improved?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Head Injury Prevention School Presentation - Parent Follow-Up Survey

Thank you for completing this survey on head injuries. We are collecting information to improve the activities of the North Shore Injury Prevention Community Action Committee, including the presentation recently conducted at your child’s school. Your input is valuable to us and is highly appreciated. The survey will take approximately 7 minutes to complete.

Your confidentiality is very important to us and your name will not be connected with any of your answers. Data will be pooled and participants’ identification will be anonymized. If you have any questions or comments about the survey, please feel free to contact Vancouver Coastal Health’s North Shore office at xxx-xxx-xxxx. Your decision to fill out the survey and your answers to questions will not affect the services you or your receive, or may receive in the future from Vancouver Coastal Health, the school district or any other body associated with this study. Answering the Demographic Question section is optional, but will help us to better target our activities to populations most at risk for head injuries.

To show our appreciation for the time you have set aside to complete this survey, if you so chose, your name will be entered in a draw for a $50 Chapters gift card. Please indicate whether or not you would like to be entered in the draw on the last survey question. Your name and contact information for the draw will be recorded separately from your survey answers.

Thank you,
Vancouver Coastal Health, North Shore
North Shore Injury Prevention Community Action Committee

Survey Questions (For multiple choice questions please only select one answer)

Knowledge Questions
1. Do you know what the 2-V-1 technique is?  
   Yes/No

2. It is safe to buy a helmet that is big enough for your child to grow into.  
   True/False

3. Can your child’s brain always heal itself from falls and concussions?  
   Yes/No

4. Most head injuries from bicycling/skateboarding occur very close to one’s home.  
   True/False

5. How often should you replace a helmet (that has not been in a crash)?  
   a. Every year  
   b. Every five years  
   c. Every ten years  
   d. When it looks worn out or damaged

6. One of the most effective ways to get your child to wear a helmet is to always wear a helmet as a parent.
True/False

7. On public property, helmets are mandatory (it’s the law) when:
   a. Bicycling
   b. Skateboarding
   c. Bicycling and Skateboarding
   d. Neither

8. A bicycle helmet provides good protection for all sports where helmets are worn. True/False

Behaviour Questions

9. Do you wear a helmet when bicycling?
   a. Rarely
   b. Sometimes
   c. Often
   d. Always
   e. I never ride a bicycle

10. Does your child/children wear a helmet when bicycling or skateboarding?
    a. Rarely
    b. Sometimes
    c. Often
    d. Always
    e. My child/children never rides a bicycle/skateboard

Demographic Questions (optional)

1. What is your age in years? (Please write your age in years or circle prefer not to answer)
   ________ years                   Prefer not to answer

2. What is your gender? (Please circle one of the options)
   Male/Female/Transgender/Prefer not to answer

3. What is your ethnicity? (Please write in the ethnicity you identify with or circle prefer not to answer)
   ______________________________ Prefer not to answer

4. What is your household income level (Please circle the range or circle prefer not to answer)
   a. Under $20,000                  Prefer not to answer
   b. $20,001 - $45,000
   c. $45,001 - $70,000
   d. $70,001 - $95,000
   e. $95,001 - $120,000
   f. Above $120,000

*Would you like to have your name entered in the draw for the $50 Chapters gift card? Yes/No
Phone number if yes: _____________________________
Head Injury Prevention in Sports – Coaches Survey

Thank you for completing this survey on head injuries. We are collecting information to improve the activities of the North Shore Injury Prevention Community Action Committee. Your input is valuable to us and is highly appreciated. The survey will take approximately 7 minutes to complete.

Your confidentiality is very important to us and your name will not be connected with any of your answers. Data will be pooled and participants’ identification will be anonymized. If you have any questions or comments about the survey, please feel free to contact Vancouver Coastal Health’s North Shore office at xxx-xxx-xxxx. Your decision to fill out the survey and your answers to questions will not affect the services you or your receive, or may receive in the future from Vancouver Coastal Health, the school district or any other body associated with this study.

To show our appreciation for the time you have set aside to complete this survey, if you so chose, your name will be entered in a draw for $100 cash for your sports team. Please indicate whether or not you would like to be entered in the draw on the last survey question. Your name and contact information for the draw will be recorded separately from your survey answers.

Thank you,
Vancouver Coastal Health, North Shore
North Shore Injury Prevention Community Action Committee

Survey Questions

1. Do you know the signs and symptoms of concussions?
   Yes/No

Name 2: __________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. If your athlete says they’re “just fine”, you should automatically allow them to continue to play.
   True/False

3. You shouldn’t let a child return to play the day of a head injury or before a health care professional, experienced in evaluating for concussion, says they are symptom-free and it’s OK to return to play.
   True/False

4. Having parents and athletes sign a concussion policy statement at the beginning of each sports season is a good tool for preventing and lessening damage from concussions.
True/False

5. Have you used concussion policy statements for parents and athletes?  
   a. No, and I will not in the future  
   b. No, but I plan on doing this in the future  
   c. Yes, I currently do this  
   d. I do not understand what a concussion policy statement is

6. An important part of being a coach is educating athletes, parents and other coaches about the dangers of concussion, the potential long-term consequences and the importance of telling coaching staff right away if someone suspects they or someone else has a concussion.
   True/False

7. Do you or your school/organization currently educate athletes, parents and/or other coaches about concussions?  
   Yes/No

8. What sport(s) do you coach? (list all)

________________________________________________________________________

9. Would you like to receive more information on concussions and head injuries specific to team sports?  
   Yes/No  
   Email address if yes: _________________________________________________

*Would you like to have your name entered in the draw for the $100 cash for your team?  
   Yes/No  
   Phone number if yes: ___________________________