

**Final Report**

# Report on the Importance and Organization of Research Funded by the BC WCB

Prepared for:

Royal Commission on  
Workers' Compensation in British Columbia

Prepared by:

The ARA Consulting Group Inc.  
In association with  
Dr. James C. McDavid

**September 1998**

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## APPENDIX 1 - PEOPLE INTERVIEWED

# Executive Summary

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This study dealt with research related to workers' compensation issues, and, in particular, the need for Workers' Compensation Boards to conduct or fund "strategic research" (research focused on issues of a long-term nature that are not directly tied to current programs or business operations). The study had three objectives:

- (1) determine the extent to which the strategic research conducted by the BC WCB has been useful or is likely to be useful in the future,
- (2) determine the need for strategic research to be conducted and/or funded by the Board — and, in particular, determine the degree of validity of each of the possible rationales for the conduct of strategic research by the Board, and
- (3) provide recommendations regarding the best way to structure the strategic research that is conducted by the Board — and, in particular, the best way to structure the proposed Research Foundation.

The primary focus of the study was on Objective 2.

## ***Research Conducted by the BC WCB and Other WCBs***

**BC.** Over the past several years the BC WCB has spent about \$2 million per year on research, split about 50/50 between operational research and strategic research. The strategic research falls into two categories:

- the research funded by the Grants and Awards program, and
- special studies of a "strategic" nature carried out on an ad-hoc basis.

The Grants and Awards program has been in operation since late 1992, but it was reorganized in 1995, following a critical report by the Board's internal auditor. Outside of this program there are two major studies currently underway at the Board which would be classified as strategic research:

- the High Risk Project — a study dealing with the testing of interventions which might be successful in reducing the likelihood of repeat injuries among workers who have had many prior claims, and
- the Prediction of Low Back Disability Project — a study to identify variables and interactions among variables which predict the degree of disability likely to follow from lower back injuries.

In 1997 the Board developed a plan to expand its strategic research efforts through a centrally coordinated Research Foundation. The rationale for the Foundation is based on the perceived need to strengthen the research function — and, in particular, to do more strategic research — combined with the need to come up with a better mechanism to determine what strategic research should be carried out. The proposed Foundation would integrate the current Grants and Awards program with other strategic research studies. In December, 1997, the Panel of Administrators agreed to set aside a reserve fund of \$30 million to serve as an endowment for the Research Foundation.

**Quebec.** The Quebec Board, la Commission de la santé et de la sécurité du travail (CSST), supplies 85% of the budget of l'Institut de recherche en santé et en sécurité du travail (IRSST), a research institute set up to serve the Board. The annual budget of the IRSST is about \$17 million, and about half of this is devoted to strategic research.

The operations of the IRSST are closely integrated with the CSST. The IRSST reports to the Board of Directors of the CSST; CSST representatives sit on the Scientific Advisory Board of the IRSST; and IRSST researchers are represented on many of the operational groups within the CSST.

This high degree of integration of the IRSST with the CSST is a recent development. Previously the IRSST functioned as an independent arm's-length research institute. The integration occurred because of the perceived need to increase the relevance and usefulness of the research carried out by the IRSST.

**Ontario.** The situation in Ontario is currently in flux. Up until 1996, three main organizations in Ontario were involved in WCB-related strategic research:

- the Occupational Disease Panel, which was responsible for conducting research and providing recommendations to the WCB regarding the health effects of different types of exposures,
- the Workplace Health and Safety Agency, a research granting agency, which was also heavily involved in supplying funding for various educational and institutional programs, and
- the Institute for Work and Health, an independent arm's-length research institute whose budget was provided by the WCB.

The first two of these organizations were disbanded by the government in 1996, and their responsibilities were transferred to the WCB. The government's main concern with the Occupational Disease Panel was the apparent domination of the Panel by stakeholder groups and the impact of this on its credibility as a producer of objective, scientific research. The government's main concern with the Workplace Health and Safety Agency was the apparent low relevance and usefulness of its work. There is also a concern about the relevance and usefulness of the research carried out by the Institute for Work and Health, but this organization was not disbanded. Instead, in the future the Institute and other organizations in Ontario carrying out WCB-related research will report directly to the WCB. It is planned that the Board will manage the research process based on priorities recommended by a Research Council appointed by the Board and chaired by a researcher by the University of Waterloo.

**Nova Scotia and Alberta.** The Nova Scotia Board funds virtually no strategic research. They occasionally fund experts to carry out reviews of the state of knowledge in specific areas, and they try to keep up-to-date on the research literature (which they find difficult because of human resource constraints). The Alberta Board does fund a small amount of strategic research — they have a new research program dealing with accident prevention and treatment and the analysis of economic issues; they contract some external research; and they have a small research grants program. As in Nova Scotia, the Board staff actively monitors the results of research carried out elsewhere.

### ***The Usefulness of Strategic Research***

**BC.** It was not possible to document the usefulness of the strategic research that has been carried out by the BC Board, primarily because very little strategic research has been completed to date. Instead, we carried out a set of supplementary interviews and an associated document review to assess the **likely** usefulness of the Board's current and recent strategic research. The results were as follows:

- Grants and Awards program — this program conducts an annual priority-setting exercise with stakeholders (primarily employers and labour unions). The agreed-on priorities become a guide for selecting research projects; however, the priorities are very broad. Several Grants and Awards projects were cited in our interviews as having strong potential to be useful. However, in general, we are not convinced that Grants and Awards projects will have a high degree of use and benefits.
- High Risk Workers Project — a WCB internal analysis identified the high number of multiple injury cases and, as a result, confirmed that a study to identify ways of preventing multiple injuries would be a worthwhile project. A business case was prepared for this project at the time it was approved. Although it is early in the project, it appears likely that the project will have significant benefits (as a result of reducing the number of claims by high-risk workers).
- Low Back Pain Disability Project — the identification of the need for this study was based on the inability of existing studies to predict the degree of disability resulting from low back injuries combined with a preliminary internal WCB analysis which suggested that socio/demographic variables might play a role in the degree of disability. The intended users of the findings have been clearly identified, and this project has projected benefits well in excess of project costs.

**Other WCBs.** Neither of the two major research institutes we reviewed, the IRSST in Quebec and the Institute for Work and Health in Ontario, has in place a performance monitoring system to capture information on the uses of their research results. Therefore, there is very little information available regarding usefulness and benefits, other than some anecdotal “success stories”.

### ***The Rationale for Strategic Research***

The main focus of this study was an examination of the validity of the rationale for the BC Board to mount an expanded effort in the area of strategic research and, in particular, the rationale for the proposed Research Foundation. We examined in detail ten possible reasons why there might be a need for the BC WCB to fund strategic research.

It was concluded that two of these rationales are of high validity — i.e., there is little question that the Board needs to fund strategic research for these reasons. An additional five rationales were rated by the study team as of medium validity — i.e., it is desirable that the Board fund strategic research for these reasons.

The two rationales that were rated as being of high validity were:

- Unless the BC Board carries out research itself, it has no control over the research agenda. The Board and its stakeholders may identify issues or problems as important, but, in the absence of its own research program, the Board would have to wait until someone else decides to take the issue on. In some cases, the research may simply not be carried out at all.
- The conduct of research by the BC Board can make a significant contribution to changing the decision-making culture at the Board. Over time, people will be asking more about what the latest relevant research findings are, and, in general, decisions will be based more on evidence than anecdotes (or “politics”).

The five rationales which were rated as being of medium validity are additional reasons why it is desirable for the BC Board to have its own strategic research program:

- Unless the Board carries out research itself, it will not have good up-to-date knowledge of the relevant research that is being carried out elsewhere (world-wide).
- The conduct of a significant research program by the Board will help to build credibility with the stakeholders and the government, as well as with the general public.
- The funding of research by the Board will help to develop the knowledge base and expertise among (mainly local) researchers, who can then be used by the Board for advice and assistance.
- The BC Board needs to contribute its “fair share” to the overall research effort in this area.
- If the Board simply relies on research conducted elsewhere and does not conduct its own research, it will have a more difficult time convincing stakeholders and the government to accept the results.

**On balance, we believe there are enough sufficiently good reasons for the BC Board to conduct strategic research that the establishment of a Research Foundation of the magnitude that has been proposed is supportable.**

### ***The Structure and Operation of the Research Foundation***

The study team’s recommendations on this subject are based on the findings outlined above, as well as our accumulated experience in the analysis of research programs and policies. Our basic premise in formulating these recommendations is that the following two conditions are both essential for the success of the Foundation:

- (1) The process used to identify research projects and conduct the research must be objective and highly credible.
- (2) The research that is carried out must be useful to the Board and other stakeholders and have significant beneficial impacts.

The structure we have proposed involves the Foundation reporting to the Board, but, at the same time, having a high degree of independence in its operations from both the Board and interest group influence. This is the structure that maximizes the probability that these two conditions will both be met.

In the text we provide an integrated set of 19 recommendations. The most important of these are:

- The Foundation should have a Research Advisory Board (RAB) which is responsible for making recommendations regarding research priorities and the funding of research projects. The RAB should include representatives of all the three main user groups — the WCB, labour, and employers.
- The research/academic community should also be represented on the RAB, and one of the representatives of this community should serve as the Chair of the RAB.
- The RAB should be made up of two WCB representatives, two labour representatives, two employer representatives and three representatives of the research/academic community. Decisions should be made on the basis of majority votes.
- The Foundation should not be structured as an independent arm’s-length research organization — it should be accountable to the BC WCB. The RAB should report to the Panel of Administrators.

- There should be a formal performance measurement and reporting system for the Research Foundation. In addition, a formal review of the quality, relevance, and impacts of the Foundation should be carried out after its first three years.



# 1. Introduction

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## 1.1 Study Objectives

This study dealt with research related to workers' compensation issues, and, in particular, the need for Workers' Compensation Boards to conduct or fund research. The study focused on "strategic research" as opposed to "operational research", by which we mean the following:

- **Operational Research** is research focused on on-going programs and business operations that is needed to supply information for near-term decision making. It is generally (but not always) conducted in-house.
- **Strategic Research** is research focused on issues of a longer-term nature that are not directly tied to current programs or business operations. It is generally (but not always) conducted externally.

The study had three objectives:

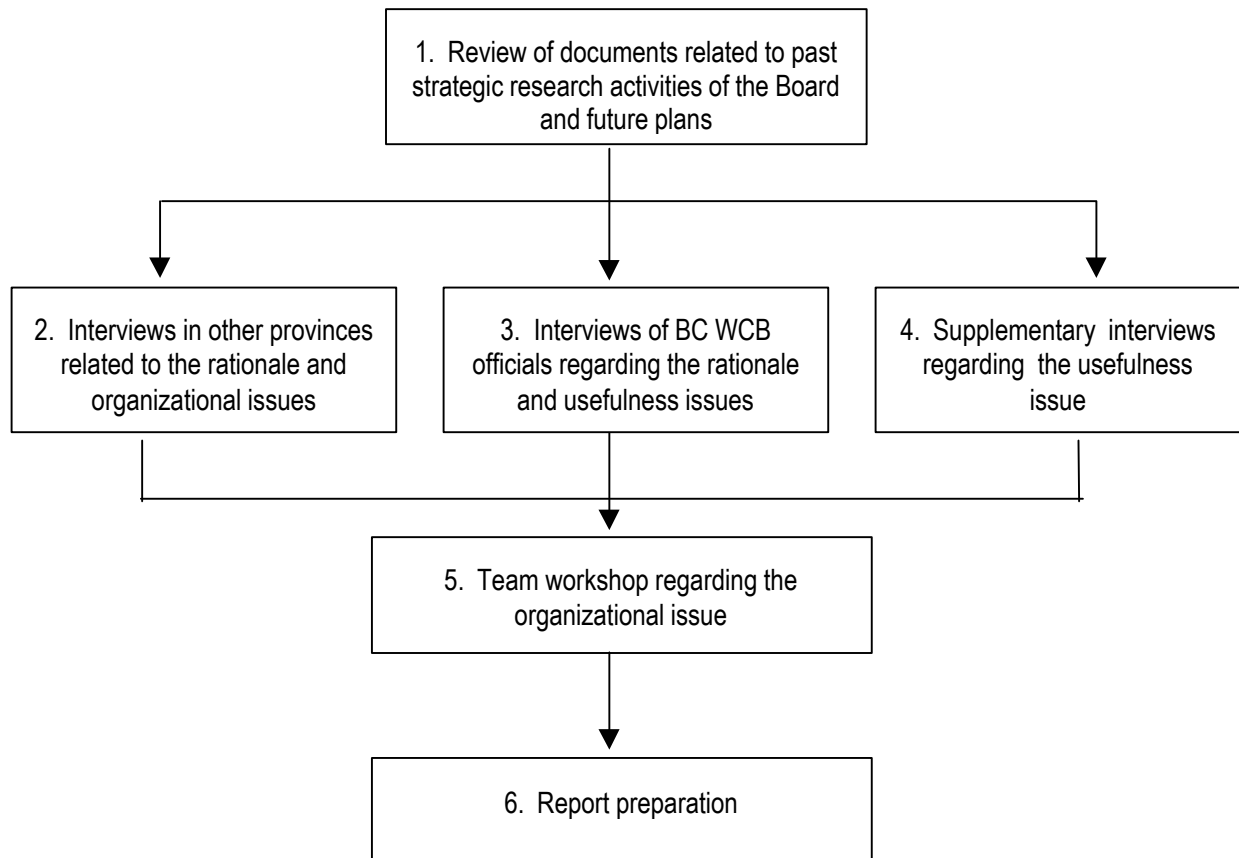
- (1) Determine the extent to which the strategic research conducted by the BC WCB has been useful or is likely to be useful in the future (we call this the "usefulness issue").
- (2) Determine the need for strategic research to be conducted and/or funded by the Board – and, in particular, determine the degree of validity of each of the possible rationales for the conduct of strategic research by the Board (the "rationale issue").
- (3) Provide recommendations regarding the best way to structure the strategic research that is conducted by the Board – and, in particular, the best ways to structure the proposed Research Foundation (the "organizational issue").

At the outset of the study the focus was primarily on Objective 1, the usefulness issue. Our original plan was to carry out an analysis of the degree to which a sample of specific strategic research projects that have been conducted by the Board have been used by WCB managers and other stakeholders. However, following the review of documentation related to the strategic research that has been conducted by the Board and the Board's plans for the future, it was decided that Objective 1 was not as important as Objective 2, the rationale issue. The main reason for this is that the Board is planning to significantly increase the amount of resources it devotes to strategic research in the future. (In addition, certain practical difficulties associated with addressing Objective 1 became apparent, the main one being that little strategic research has been conducted by the Board to date.)

As a result, some study resources were redirected from Objective 1 to Objective 2. Objective 3 was also reworded at this time to add a specific focus on the proposed Research Foundation.

## 1.2 Study Description

The main study activities are illustrated below.



The study began with the review of documents related to the Board's research activities and plans. These included documents related to a number of individual research projects as well as to the Board's main strategic research program, the Grants and Awards program. Also included in the review was a considerable amount of documentation related to the proposed Research Foundation – analyses of the strengths and weaknesses of the Board's current research efforts, papers related to the rationale for the Foundation, and papers related to the proposed structure and operation of the Foundation.

Following this, the project team conducted three sets of interviews. A list of the people interviewed is contained in Appendix A. The first set involved interviews with WCBs and related research organizations in four provinces – two large provinces, Ontario and Quebec, and two small provinces, Alberta and Nova Scotia. These interviews related to the need for conducting strategic research, the structure and operation of the various strategic research efforts, and, for the smaller Boards, the effects on their operations of limited resources for strategic research.

Following this, we conducted interviews with 15 staff members of the B.C. Board. These dealt primarily with the rationale issue – in particular, the importance to these people in their functions at the Board and to the Board generally of strategic research. We also discussed any specific uses they

or others at the Board have made of strategic research in the past, including strategic research conducted by other organizations.

In the final set of interviews we re-interviewed the three people at the Board who are currently most heavily involved in conducting or funding strategic research. These interviews dealt primarily with research that is currently underway and focused on how the need for the research was identified, the primary intended users and uses of the research, and the expected benefits.

The final study activity prior to report preparation was an internal team workshop regarding the organizational issue. The main objective of this workshop was to formulate the team's recommendations regarding the structure and operation of the Research Foundation in light of the findings from the preceding study activities.

## 2. Description of the Strategic Research Conducted by the BC Board

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Over the past several years, the BC WCB has spent about \$2 million per year on research, split about 50-50 between operational research and strategic research. The strategic research falls into two categories:

- the research funded by the Grants and Awards program, and
- special studies of a “strategic” nature carried out on an ad-hoc basis.

### 2.1 The Grants and Awards Program

The Grants and Awards program was approved by the former Board of Governors in October, 1992. Section 71(4) of the Workers Compensation Act provides the authority for a WCB research program: “The Board...may undertake or support research in matters relating to its responsibilities under the Act”.

The program operated in somewhat of an ad-hoc fashion for the first year or so of its existence. The policies for the program were established by the Board in November, 1994. These included the establishment of a Grants and Awards Advisory Committee “to determine the criteria for funding, to administer the allocation of the funding, and to ensure the evaluation and communication of the outcome of the funded programs/projects”. The Committee consists of two labour representatives and two employer representatives.

The policies established at that time also included the following:

- the Committee is to carry out a needs analysis which reflects the research needs articulated by the employer and worker communities and the WCB staff;
- the Committee is to establish criteria for funding proposals consistent with this needs analysis;
- proposals are to be solicited three times per year, and the Committee is to develop a communications strategy to solicit proposals; and
- the Committee is to communicate the results of the research projects to the Board and the community.

About 30 research grants were awarded in the first three years of the program<sup>1</sup>. The report on the program audit conducted at the end of 1995 states that grant payments totalling \$569,000 were made in 1995, and payments totalling \$426,000 were made in 1994 and prior years.

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<sup>1</sup> These are briefly summarized (project history, expected outcomes, process, and results) in the report *Summary of Proposals Funded by the Grants and Awards Fund of the Workers Compensation Board of BC, 1993 to 1995*, Nancy Mathias, November, 1996.

That audit report was not very positive about the structure and operation of the program. It stated that:

- the program did not maintain an appropriate system of budgeting and accounting for funds;
- the Advisory Committee did not consult with community and representative groups to identify and prioritize areas requiring research;
- there was no formal proposal solicitation process or guidelines for proposal submissions. (In fact, all of the grant proposals reviewed by the auditors were unsolicited.);
- there were no formal proposal evaluation and selection criteria;
- there was no process to track and follow-up on project deliverables; and
- the Committee did not report the results of the research to the Board, and it did not communicate the results to representative communities.

However, the report also noted that the Coordinator of the program was only recently appointed “and changes to the management and administration of the program are currently in progress”.

A subsequent audit follow-up report (March/97) notes that “The Grants and Awards Committee has implemented many procedural changes to address the issues raised in the audit”. The program was renamed *Finding Solutions* and formal program objectives were established:

- promote early identification and prevention of workplace risks;
- research methods for reducing workplace risks and/or improving worker health and safety;
- evaluate rehabilitation strategies in reducing impact of workplace injury and disease; and
- promote education and training on specific health and safety risks.

One change made at this time was the establishment of a formal two-stage competition process for awarding grants. In Stage One applicants submit letters of intent for review by the Committee. Those applicants whose submissions best meet the evaluation criteria (see below) are then invited to submit a full proposal. The proposals are normally subjected to a peer review process, which consists of a Committee review and written reports by external experts. Upon completion of this review, the Committee recommends the proposals which should be funded.

The program now also includes a needs identification process (based on surveys of Board staff and external stakeholders) to assist in determining priorities (which are published) and a proactive process for obtaining proposals (including a large mail-out and publicizing upcoming competitions). The criteria for evaluating letters of intent (which are published) are (in abbreviated form):

- relevance (to the program objectives);
- benefits (to workers and the WCB);
- project feasibility; and
- soundness of the analytical plan.

In the proposal stage the *relevance* criterion is replaced by a *quality* (of the proposal) criterion.

Grants are normally awarded for a two-year period and generally do not exceed \$50,000 per year.

We elaborate on the process used in the program for deciding on which research projects are funded, since this is relevant to the discussion of the structure and operation of the Research Foundation in Section 6. As noted above, the Grants and Awards Advisory Committee consists of two labour representatives and two employer representatives. Two WCB staff members serve in the roles of Coordinator and Technical Advisor and are ex-officio members of the Committee. Decisions on which proposals should be recommended for funding are made by consensus. Proposals which are recommended are submitted to the Senior Executive Committee (SEC) of the Board for final approval, which is essentially automatic. Research projects with budgets in excess of \$200,000 also need to be approved by the Panel of Administrators.

## 2.2 Other Strategic Research

We have identified two major studies currently underway at the Board which would be classified as strategic research. These are briefly described below.

**High Risk Project.** This study deals with injured workers who have had 20 or more prior claims or 5 claims within the past five years. The study arose out of an internal WCB analysis (conducted in the Prevention Division) which indicated that in 1994-95 there were approximately 4,000 cases where workers had a previous history of 20 or more injuries. Understanding the reasons for multiple injuries, and, based on this, identifying potential ways of intervening to prevent injuries, appeared to be a worthwhile project.

The project involves the testing of several different interventions to determine whether any of them affects the likelihood of repetition of injuries. The interventions include:

- telephone contact with key stakeholders when a multiple injury situation is identified (worker, employer, union);
- mail-out of information on accident/injury prevention; and
- one-day workshop intended to focus on accident/injury prevention (for workers and employers).

The project includes an evaluation component to determine the efficacy of these interventions.

The overall budget for this project is approximately \$700,000. 1997 expenditures were approximately \$400,000. This project is being conducted by the Strategic Projects Branch.

**Prediction of Low Back Disability.** The purpose of this project is to identify variables and interactions among variables which predict the degree of disability likely to follow from lower back injuries. The impetus for the project was the observation that the level of physical impairment does not predict the level of disability well. Using biomedical variables to predict lower back pain disability resulted in very low levels of variance explained ( $R^2$  less than 0.03). By adding socio-economic variables alone,  $R^2$  values increased to 0.2, suggesting that a need existed for broader study of predictors of low back pain disability.

The project has been divided into two phases. Phase I was a correlational study based on the analysis of 439 low back injured workers to try to determine what predicts the level of disability (as measured by three variables – percent loss of earnings, total pension cost, and return to work percentage).

Phase I has shown that it was not possible to predict the level of disability well from existing records, and this prompted a second phase, which will gather detailed information on approximately 400 WCB clients (injured workers) for three years post-injury. Included in the study will be a large number of heretofore unassessed variables which should collectively improve the likelihood of being able to develop a model that will predict lower back pain disability.<sup>2</sup>

The 1997 expenditures on this study were approximately \$200,000. This project is being conducted by the Psychology Department.

**Other Projects.** The other research of a strategic (i.e., non-operational) nature we identified involves studies that consist primarily of analyses of the Board's internal data. For example, the Statistical Services Department conducted an internal study based on Board statistics on the effect of the time of day and day of the week on workplace injuries. The March, 1998, report *Key Performance Indicators* also contains a number of analyses of internal data which, although they may not be classified as research, do lay the foundation for research – e.g., analyses of injury rates, duration of wage losses, and so on.

**Organization of Strategic Research.** Other than the research carried out in the Grants and Awards program, the strategic research projects conducted by the Board cannot be described in any systematic way, because these studies are largely ad-hoc. As part of the planning process for the proposed Research Foundation, senior WCB staff made a number of presentations to the Senior Executive Committee (SEC) in 1996 and 1997 describing the way in which the Board's strategic research effort is currently organized. These presentations state that:

- there is no systematic way of setting priorities for these kinds of studies;
- there is no formalized decision process;
- there is little co-ordination of research activities between divisions, resulting in duplication and lack of collaboration between divisions;
- there is no inventory of research projects undertaken; and
- there is no systematic way for disseminating research results.<sup>3</sup>

## 2.3 The Research Foundation Proposal

The idea of establishing some sort of Research Foundation was originally put forward in a meeting of the SEC in March, 1997, and it was subsequently discussed on a number of occasions that year. The plan is to expand the Board's strategic research efforts through a centrally co-ordinated Research Foundation. The rationale for the Foundation is based on the perceived need to strengthen the research function – and, in particular, to do more strategic research – combined with the need to come up with a better mechanism to determine what strategic research should be carried out.<sup>4</sup> The

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<sup>2</sup> There is a considerable amount of research that has been done to try to predict the level of disability on the basis of single variables (e.g., single worker factors, workplace factors). The BC WCB study attempts to integrate all the possible factors.

<sup>3</sup> See, e.g., the presentation to the Senior Executive Committee titled *WCB Research*, Bart Jessup, December 13, 1996, and the attachments to this presentation, particularly the paper *Development of Research at the Workers' Compensation Board of British Columbia*.

<sup>4</sup> The need to improve the coordination of research had been mentioned in the 1996 Strategic Plan of the WCB (page 27).

Foundation would integrate the current Grants and Awards program with other strategic research studies:

*Rather than a stand-alone institute, in-house researchers would continue to carry out operationally oriented studies needed by the Prevention and Compensation/Rehabilitation Divisions [evaluations, applied research, etc.]... The present Grants and Awards function would be expanded to continue to oversee research contracts, leading edge “research and development” work, and larger studies. For this work the Board would rely heavily on contracting...the more “developmental [as opposed to operational] studies would be carried out through the enhancement of the Grants and Awards function into a more distinct Research Foundation.<sup>5</sup>*

The formal proposal for the Foundation puts forward the following rationale for its establishment (in addition to the need for increased resources for strategic research):

- the current lack of a system to prioritize research projects;
- the lack of strategic focus for the research which is currently carried out;
- the need for increased accountability and transparency; and
- the need for increased coordination and “executive direction”.

The SEC presented this proposal to the Panel of Administrators in December, 1997, and the Panel agreed to set aside a reserve fund of \$30 million to serve as an endowment for the Research Foundation. (The \$30 million was allocated from an anticipated surplus in the Accident Fund at year-end 1997.) At the same time, the Panel requested that the Policy Bureau carry out some consultations and related work related to the structure and operation of the proposed Foundation. The Foundation is discussed further in Section 6.

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<sup>5</sup> Presentation to the Senior Executive Committee, *WCB Research*, Bart Jessup, March 13, 1997.



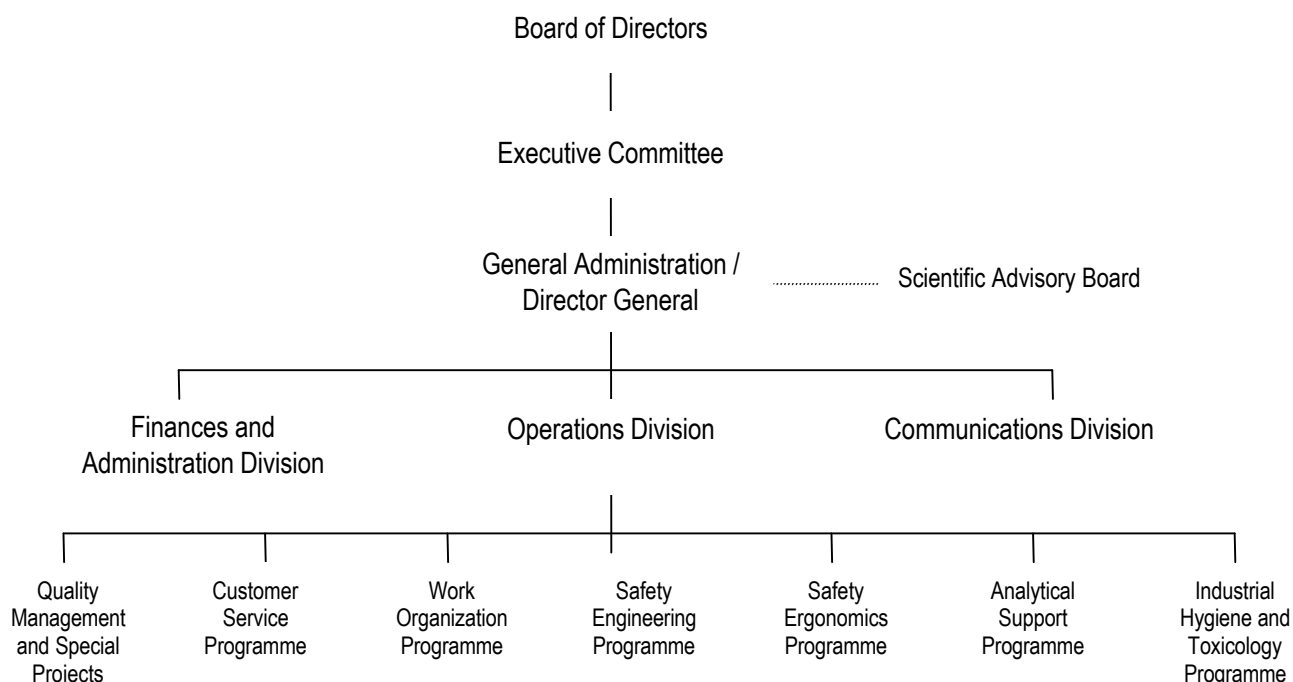
## 3. Strategic Research Conducted By Other Boards

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### 3.1 Quebec

The Quebec Board, la Commission de la santé et de la sécurité du travail (CSST), supplies 85% of the budget of l'Institut de recherché en santé et en sécurité du travail (IRSST), a research institute set up to serve the Board in accordance with Quebec legislation. The annual budget of the IRSST is about \$17 million, and about half of this is devoted to strategic research as we have defined it. The IRSST also provides laboratory services for the CSST, as well as other scientific and technical support services. In 1996 the Institute employed 130 people, 94 of whom were scientific personnel.

The organization of the IRSST is shown below.



The Director General reports to an Executive Committee, which in turn reports to the Board of Directors of the CSST. The Chair of the CSST Board of Directors also serves as the President of the Executive Committee.

A Scientific Advisory Board which includes labour, employer and academic representatives, as well as representatives of the CSST, is responsible for evaluating and prioritizing research projects. For all practical purposes, this is the group that decides which research projects get carried out. Both the CSST and the IRSST representatives interviewed pointed out that the Scientific Advisory Board is not a “political committee”. It is made up of people who care about research and are knowledgeable about research and research needs. In particular, the labour and employer representatives are operational people, not “political” representatives of these constituencies. The reason for the

inclusion of academic representatives is that it is considered “important to have the scientific point of view represented on this Board to help ensure the objectivity and credibility of the research”.<sup>6</sup>

The IRSST is quite closely integrated with the operations of the CSST. First, as noted above, the IRSST reports to the Board of Directors of the CSST. In addition to this, IRSST researchers are represented in many of the operational groups within the CSST. This enables the researchers to gain a better understanding of the problems faced by the CSST and identify relevant research issues.

This high degree of integration of the IRSST with the CSST is a fairly recent development (within the past few years). Prior to this, the IRSST functioned as an independent arm’s-length research institute. The integration occurred because of the perceived need to increase the relevance and usefulness of the research carried out by the IRSST. Both the CSST and IRSST representatives agreed that this is working well, although they had slightly different perspectives:

- The CSST representative explained that the integration came about because of pressure from the CSST, which was concerned that the research being carried out by the IRSST was highly “fundamental” (non-applied) and not particularly relevant to their needs. In addition, the CSST had no control over what research was carried out. The CSST representative stated that the integration is “working very well—the research is now very well integrated with the CSST’s needs.”<sup>7</sup>
- The IRSST representative agreed that their research is now being used much more by the CSST, but he did not give the increased relevance of the research as the main explanation. He said that the reason is that the stakeholders—particularly the CSST—are much more involved in the research planning process, so they are participants in the research program, and they’re much better able to understand and apply the research results: “In order for research results to be used, the stakeholders have to see a link between the research and its ultimate application, and in order for this to happen they need to have input into the planning process and close contact with the researchers. If the researchers are arm’s-length from the stakeholders, the stakeholders are likely to ignore the results.”<sup>8</sup> He cited as an example a report published by the IRSST about 13 years ago dealing with low back pain. It apparently took 10 years for the CSST to look at this report, even though it was highly acclaimed all over the world. In his opinion, the main reason for this was that they weren’t involved in the research.<sup>9</sup>

## 3.2 Ontario

The situation in Ontario is currently in flux. We begin with a historical perspective.

Over the period from the early 1990s until 1996, three main organizations in Ontario were involved in carrying out strategic research related to workplace health and safety, compensation, and rehabilitation:

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<sup>6</sup> Personal communication Yves Goddeau, CSST May 27, 1998.

<sup>7</sup> *Ibid.*

<sup>8</sup> Personal communication Jean Yves Savoie, IRSST, May 3, 1998.

<sup>9</sup> *Ibid.*

- the Occupational Disease Panel (originally called the Industrial Disease Standards Panel);
- the Workplace Health and Safety Agency; and
- the Institute for Work and Health (originally called the Ontario Workers Compensation Institute).

**The Occupational Disease Panel.** The Occupational Disease Panel was established in 1985 to deal with industrial diseases, mainly the health effects of different types of exposures. Its mandated function was to:

- investigate possible industrial diseases;
- make findings as to whether a probable connection exists between a disease and an industrial process, trade or occupation in Ontario;
- create, develop, and revise criteria for the evaluation of claims respecting industrial diseases, and
- advise on eligibility rules regarding compensation for claims respecting industrial diseases.<sup>10</sup>

The Panel was involved in conducting research and providing recommendations to the WCB.

The Panel did carry out some primary research, but it mainly carried out reviews of the scientific literature to summarize the state of knowledge on particular subjects. It provided some 25 formal reports to the WCB, many of these dealing with the health effects of various mining practices. It also advised the Board regarding industrial health standards. (It was particularly heavily involved in advising the Board regarding the implications of reports of the Ontario Royal Commission on Asbestos in the late 1980s.) Up until 1991, the Panel and the staff were largely scientific in orientation. After 1991 the composition of the Panel changed. Whereas stakeholders had been in the minority in the earlier Panels, the new Panel membership changed and became stakeholder-led with scientific input. The Panel staff also changed at this time—except for one person there was no longer scientific/technical staff at the Panel, and the full-time staff performed largely policy-directed work.

After its election, the Conservative government had the perception that the Panel was too political, and, in particular, too labour-oriented, and industry shared this perception.<sup>11</sup> The government disbanded that Panel in 1996 and shifted its responsibilities to the WCB.

**The Workplace Health and Safety Agency.** This agency was established in 1990, primarily to take over a research grants program that had been administered by the Ministry of Labour but had been heavily criticised for lack of relevancy and for being driven by researchers. The grants program had a budget of about \$4 million annually, but in 1991-92 all but about \$800,000 of this was already committed to various educational and institutional programs. For example, the program provided core funding to the Occupational Hygiene Diploma program at McMaster, the Occupational Hygiene program at U of T, and to St. Michael's Hospital for manpower training in occupational hygiene. The

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<sup>10</sup> Ontario Workers Compensation Act, 1995, Section 5.

<sup>11</sup> Personal Communication, Linda Jolley, Ontario Workplace Safety and Insurance Board.

program also provided grants to resource centres, community colleges, and a variety of other institutions.

A 1992 review of this program recommended that the agency scale down its commitments to educational programs and resource centres and free up a pool of funds for research projects (\$2 million by 1994/95 and \$3 million by 1995/96).<sup>12</sup> However, as of January, 1995, a total of only six research projects had been funded by the program since its inception.<sup>13</sup>

Like the Occupational Disease Panel, the Workplace Health and Safety Agency was also disbanded by the government in 1996 and its responsibilities transferred to the WCB.

**The Institute for Work and Health.** In the late 1980s, the WCB set up a community clinic program to deal with rehabilitation from soft-tissue injuries. The Board also set up the Institute at this time, primarily to evaluate the community clinic program and to carry out related research on causes of injuries and treatment approaches. In 1994 the mandate of the Institute was broadened to include a stronger research focus on fundamental factors that contributed to work-related disability, with a view to prevention.

The Institute receives its budget, approximately \$5 million per year, from the WCB, but it functions as an independent research institute. In 1995 it employed 33 full-time staff, and 36 part-time staff, fellows, and graduate students. Much of the research is carried out by a diverse network of academic researchers, with various grant and joint-appointment relationships.

The Institute is governed by an independent Board of Directors composed of senior business, labour and academic leaders. Two advisory committees provide recommendations regarding research priorities—a Research Advisory Committee composed largely of researchers and a Professional Advisory Committee composed largely of people involved in treating workplace injuries.

In 1996 the Institute commissioned an external review of its first five years of research by an independent panel. The review was intended to assess the quality and value of the Institute's research program, but it did not deal very much with the issue of value. The following finding of the review panel is interesting in relation to the current BC context:

*The panel found the Institute's independence from the Workers' Compensation Board of Ontario and from external political interests, as well as the involvement of diverse stakeholder groups on its Board of Directors and other committee structures to be important elements in the development of the Institute's credibility and acceptance by stakeholders.<sup>14</sup>*

At the same time, however, it is important to note that there have been concerns about the degree of relevance of the Institute's research. There is some feeling that the Institute has too much of an "academic orientation," pursuing its own interests to a great degree and being unable to address issues that are of high relevance to the WCB but may be of less academic interest.<sup>15</sup>

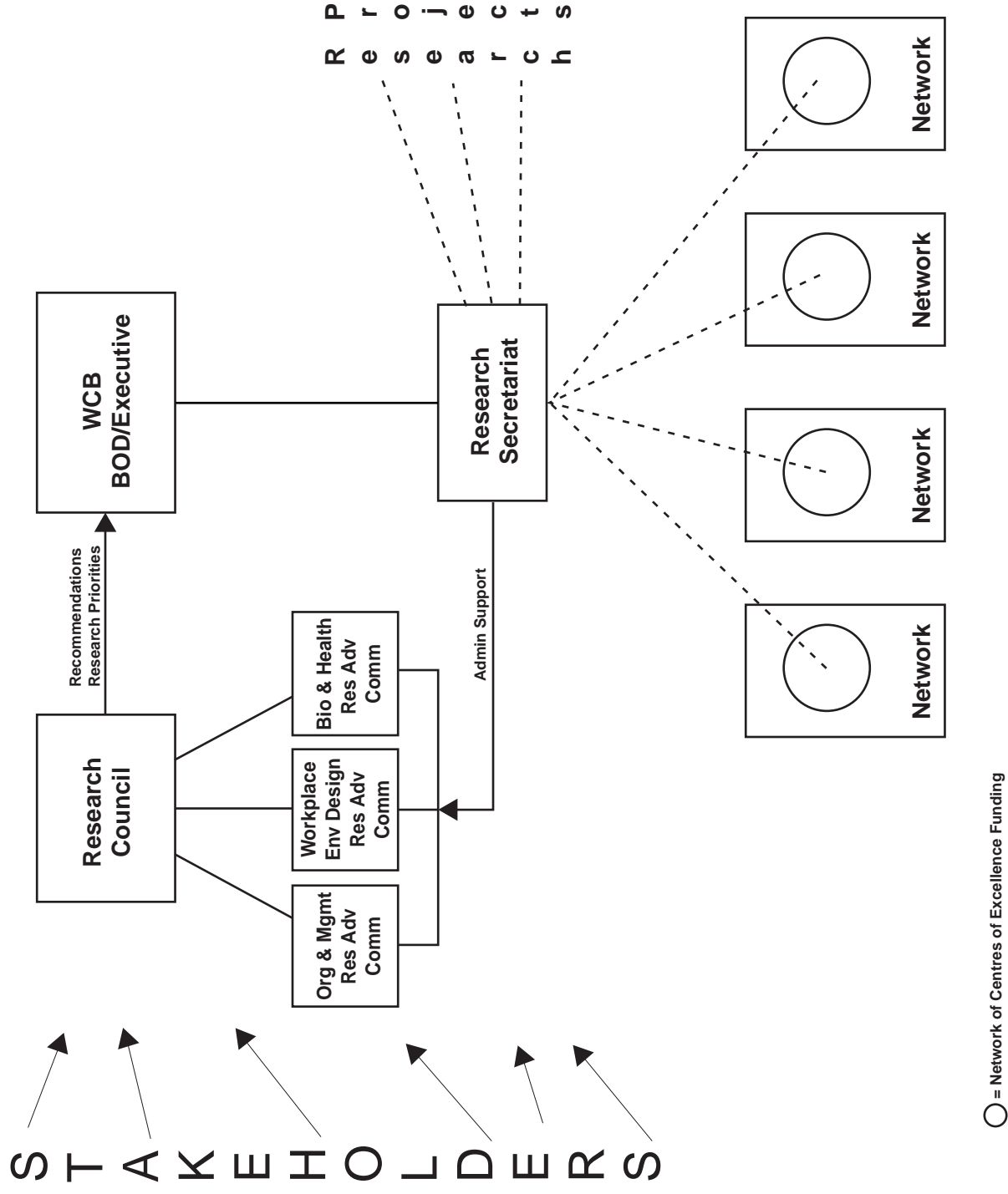
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<sup>12</sup> Building Strategic Alliances: Ontario Research in OHS and a Collaborative Role for the WHSA, SPR Associates Incorporated, December, 1992.

<sup>13</sup> Research Inventory: Ontario Occupational Disease and Health and Safety Research, January, 1995.

<sup>14</sup> An External Review of the Institute for Work and Health's First Five Years of Research: Executive Summary, June, 1996, page 2.

<sup>15</sup> Personal communication, Jim Stewart, Board member of the Ontario Workplace Safety and Insurance Board (opinion echoed by Linda Jolley).



Organizational Framework for  
Research for the Ontario WCB

**The Ontario Research Strategy.** The WCB is currently in the process of reorganizing the overall Ontario research effort based on a research strategy developed last year.<sup>16</sup> The strategy deals with the total research effort in Ontario—not just the research which formerly fell under the Occupational Disease Panel and the Workplace Health and Safety Agency.

The strategy envisions that the Board will manage the research process based on priorities recommended by an appointed Research Council. The Council is now in place. It includes researchers (the largest group represented), employers, labour, and the WCB, and it is chaired by a researcher from the University of Waterloo. The organizational structure for the research strategy is shown on the following page, although it should be noted that this structure may be simplified—in particular the three research advisory committees may not be constituted.<sup>17</sup>

It is noteworthy that this research effort will be managed by the WCB. The Research Council will recommend research priorities to the WCB executive and Board of Directors, but the WCB will set the research agenda and allocate funding. It will also manage the research process through a dedicated secretariat.

Operationally, the strategy envisions a centres of excellence type model for conducting research, with the Institute for Work and Health becoming the centre of excellence for soft-tissue injuries. It is planned that the Board will allocate both core funding and project-based funding. The Board is committed to allocating approximately \$12 million per year to strategic research by the year 2000 (which would be approximately equal to the budget of the Institute, plus the budgets of the two organizations whose responsibilities were transferred to the Board in 1996).

### 3.3 Alberta and Nova Scotia

**Alberta.** The Alberta Board funds a small amount of strategic research. They started a new research program last year which will deal with accident prevention and treatment and the analysis of economic issues (e.g., economic forecasting, a study to examine the viability of privatized workers' compensation). They also contract external research on an as-needed basis, and they sometimes contribute to research carried out by other jurisdictions, such as the BC Board's study on Multivariate Predicators of Low Back Disability. Finally, they have a small research grants program (about \$250,000 per year).

The Board staff, particularly the Health Care, Medical, and Economics Groups, actively monitors the results of research carried out elsewhere. They feel they do so fairly effectively in cases in which the research is related to the specific operational responsibilities of the reviewers, but they admit that it is difficult for their staff to keep abreast of research being carried out elsewhere in more "fundamental" research areas. In these cases they often try to track down an "interpreter" of the current state of knowledge from the Board's collective network of researchers they know. Sometimes they call the authors of interesting publications or references listed in the publications.

The Board, and particularly members of their Research Committee, definitely feel there is far less research occurring in Alberta in areas of worker health and safety and treatment than there should be. They feel that Alberta is spending several million dollars less per year than would be desirable, especially on medical research dealing with attribution of injuries and health problems to workplace

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<sup>16</sup> Solutions for Workplace Change: Toward a New Ontario Research Program for Workplace Health, Safety and Compensation, July 1997.

<sup>17</sup> *Op. Cit.*, Linda Jolley.

causes and on better treatments. They attribute this situation to the cutbacks to health care research that have occurred in the province.<sup>18</sup>

The Alberta Board would be very supportive of an expanded research effort by the BC Board, assuming the two Boards could cooperate on research projects. They would see this, in effect, as a regional research centre, which they would rather work with than eastern research institutes. They are concerned, however, over the political climate in British Columbia, where they perceive business and labour representatives to be constantly warring. They do not want to get involved in a research operation along the lines of what they perceive to be the model of BC's Grants and Awards program, where some studies are done for labour and some are done for business.<sup>19</sup>

**Nova Scotia.** The Nova Scotia Board funds virtually no strategic research. They occasionally fund experts to carry out reviews of the state of knowledge in specific areas. Their staff tries to keep up-to-date on the research literature, but they admit they can't do this very well because of human resource constraints: "We don't have enough people to read the literature and figure out what it means for us".<sup>20</sup>

The main problem they perceive with their situation is that they're not very well plugged into what research is going on. Therefore, they're not sure they're even asking the right questions when they review the literature or commission outside experts to summarize the current state of knowledge. They also feel that they get research information later than they would if they had active interactions with researchers.

Finally, the Board representative noted that it would be good if research findings were used to motivate the development of policies, at least to some extent. The current situation is pretty much the other way around—when they're developing a policy or have a "hot issue", they search the research literature to try to identify relevant findings.

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<sup>18</sup> Personal Communication, Michael Plum, Alberta WCB, May 5, 1998.

<sup>19</sup> Ibid.

<sup>20</sup> Personal Communication, Jim Houston, Nova Scotia WCB, May 5, 1998.

## 4. The Usefulness of Strategic Research

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### 4.1 The Usefulness of Research Conducted by the BC WCB

It was not possible to document the usefulness of the strategic research that has been carried out by the BC Board. The main reason for this is that very little strategic research has been completed to date. The bulk of the Board's strategic research has been within the Grants and Awards program, which, as noted in Section 2.1, was not very well organized until the past few years. Prior to 1995 there was not even a requirement for recipients of research grants to submit a final report, and the projects from these earlier years are not very well reported. The program was put on hold in 1995 while it was reorganized, and the project reports from 1996 and 1997 are just starting to come in. Other than the research that has been conducted in this program, there has apparently been very little strategic research conducted by the Board, except for the two major studies described in Section 2.2, which are still ongoing.

We did identify some uses of past Grants and Awards projects, mainly in the Regional Services Branch of the Prevention Division. These include:

- the use of information from a study dealing with the grinding of saw blades to communicate best practices to the industry;
- the use of studies on pesticides and on wood staining and preserving to advise workers and employers about risks; and
- the use of a study on welding to communicate information to employers and workers regarding how workplace injuries occur.

We also identified a number of examples of uses by the BC Board of the results of research studies conducted by academics and/or other WCBs. These include:

- the use by the Appeals Division of the research of a McGill University researcher on bladder cancer in aluminium smelters to resolve a very complex appeal. (Not only were the research results used, but the researcher was retained by the Appeals Division as an advisor, and his role was critical to resolving the appeal.<sup>21</sup>);
- the use by the Rehabilitation and Compensation Division of a considerable amount of research on low back pain to develop a new treatment approach;
- the use by the Compensation Services Division of research conducted at St. Paul's Hospital to develop a policy on HIV/AIDS; and
- the use by the Firefighter Cancer Committee of the available research on cancer among firefighters to explore different ways of adjudicating claims.

Since we were not able to document the usefulness of the strategic research conducted by the BC Board in the past, we carried out a set of supplementary interviews and an associated document review to assess the likely usefulness of the Board's current and recent strategic research. The results are summarized below.

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<sup>21</sup> Personal communication, Tom Kemsley, BC WCB, May 15, 1998.



**Identification of the Need for the Research.** For the two large-scale research projects discussed in Section 2.2 (Accident Repetition With High Risk Workers and Predictors of Low Back Pain Disability) several preliminary analyses were done to estimate the approximate scale of the problems. With respect to Accident Repetitions, a WCB analysis identified the high number of cases where workers had a previous history of twenty or more injuries and, as a result, confirmed that a study to identify ways of intervening to prevent multiple injuries would probably be a worthwhile project.

The identification of the need for the Low Back Pain study was based on:

- the considerable sum spent by the WCB on compensation for lower back injuries (estimated by one interviewee at \$50 million—and over \$2 billion for Canadian WCBs as a whole);
- the inadequacy of existing studies which attempted to correlate loss of earnings with degree of impairment; and
- preliminary analyses which suggested that socio/demographic variables might play a role in the degree of disability.

With regard to the Grants and Awards program, the program conducts an annual priority-setting exercise with stakeholders (principally employers and labour unions). The final priorities for the program are approved by the Advisory Committee, and they become a guide for selecting projects for funding.<sup>22</sup> In addition, applicants are required to outline how their project will be of benefit to workers and employers in BC, and this is a formal evaluation criterion in the proposal evaluation process.

**Intended Users of Research Projects and Expected Benefits.** The High Risk Workers Project is intended for use primarily in the Compensation Services Division. The project is expected to influence policies and programs focused on managing multiple injury workers by identifying interventions which reduce the likelihood of repetition of injuries.

A business case was prepared for this project at the time it was approved. The projected benefits are based on treating up to 400 claimants (i.e., including them in one of the interventions) and achieving a reduction of 28 injury reports for those 400 people. Since injury claims average roughly \$9,000 per injury, the projected savings would be over \$250,000. (The project costs are approximately \$200,000).

With regard to the Low Back Pain Disability Project, interviewees indicated several intended users of the findings. These include Case Managers, who have the task of managing the outcomes for longer claims, and managers in Rehabilitation/Compensation Services programs who could plan interventions that are not only appropriately focused but are also timed to occur when particular problems surface post-injury. The overall expectation is that the project will lead to the opportunity to develop individualized, more effective interventions.

This project did not prepare a formal business case, although it has projected benefits well in excess of expected project costs. In view of the size of the expenditures on lower back injury claims in BC, the project would only need to succeed in reducing the costs associated with a few such claims in

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<sup>22</sup> These priorities are quite broad. For example, for 1998 they are: (1) work and organizational culture and its impact on occupational health and safety and rehabilitation in the workplace; (2) evaluation of factors affecting health and safety risks; (3) development of interventions related to specific risks; and (4) evaluation of interventions to promote occupational health, safety, and rehabilitation.

order to pay for itself. The interviewees also noted a qualitative benefit of this research—an expected reduction in the “politics” around lower back injuries, as judgement-based decisions are replaced by evidence from the project.

We are less convinced that the Grants and Awards projects will have a high degree of use and benefits. These projects have not tended to have organized constituencies of users, as have the two major projects discussed above. Nevertheless, several Grants and Awards projects were cited in our interviews as having a strong potential to be useful. For example, the study *The Effectiveness of Joint Health and Safety Committees (JHSCS) and Safety Training in Reducing Fatalities and Injuries in British Columbia Forest Product Mills* is expected to affect WCB programs focused on promoting JHSCS.<sup>23</sup>

One of the major Grants and Awards projects over the years has been the funding of the research program of the BC Cancer Agency. Initially, this series of projects had the objective of developing an infrastructure for collecting data on the incidence of cancers among BC workers. More recently, the expectation is that reports be prepared which describe the incidence of cancers among various occupational classifications. This information would clearly be useful and beneficial.

## 4.2 The Usefulness of Research Conducted by Other WCBs

Neither of the two major research institutes we reviewed, the IRSST in Quebec and the Institute for Work and Health in Ontario, has in place a performance monitoring system to capture information on the uses of their research results. As noted in Section 3.2, the external review of the Ontario Institute did not address this either. Therefore, there is very little information available on the usefulness of the research carried out by these institutes to their sponsoring WCBs (or others).

The IRSST does publish articles describing the applications of some of their research results in the magazine *Prévention*, which is jointly published by the IRSST and the CSST. For example, articles in two recent editions described:

- the use by the CSST of a detailed analysis of the risks and durations of injury by sector in order to target prevention interventions;
- the use by fibreglass manufacturing factories of research on a system for capturing and ventilating styrene emissions; and
- the use by the poultry farming industry of a study on repetitive strain injuries in order to develop prevention strategies.

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<sup>23</sup> Unfortunately, however, unlike the two larger, more carefully designed studies, this study does not lend itself as well to policy-making and program development. The study is essentially based on a survey of employees and managers in BC mills. Although the findings indicate that mills have efficacious JHSCS and that a generally cooperative stance toward mill safety issues tends to lower accident rates, the findings reported are all based on bivariate correlations. Since other possibly intervening, mediating, or masking variables are not controlled for, the findings need to be viewed tentatively.

## 5. The Rationale for Strategic Research

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In this section we discuss the validity of the rationale for the BC Board to mount an expanded effort in the area of strategic research and, in particular, the rationale for the proposed Research Foundation—i.e., to what extent is the Foundation actually needed?

There is no question that there is a need for strategic research to be conducted in the area of workplace health and safety, compensation, and rehabilitation. There are a large number of important questions to which research can contribute. It is also clear that it is important for WCBs (and possibly other stakeholders) to be able to have access to researchers for advice and assistance and, especially, for summarizing the state of knowledge regarding specific issues.

The relevant question then is not whether there is a need for strategic research in general, but whether there is a need **for the BC WCB to carry out (fund) strategic research**. Over the course of this study we identified 10 possible reasons why this might be the case. Our findings regarding the validity of each of these reasons are summarized below.

We have rated each of these rationales as being of either high, medium, or low validity, where these ratings are defined as follows:

- *high*: This rationale is very appropriate for the BC WCB. There is little question that the Board needs to fund strategic research for this reason.
- *medium*: This rationale is of moderate validity — it is desirable that the Board fund strategic research for this reason.
- *low*: This rationale has limited validity for the BC WCB. The Board does not need to fund strategic research for this reason.

**Rationale 1:** Unless the BC Board carries out research itself the Board will not have good up-to-date knowledge of the relevant research that is being carried out elsewhere (world-wide).

**Validity:** It is true that, to a large extent, you have to be active in research to really know what the research results are in your area. There is too much of a time lag associated with research publications, and many research findings which may be important are not published in the formal literature.

“If you’re not one of the players, you don’t know who’s doing what, and you’re five years out of date.”<sup>24</sup>

“Our board [Nova Scotia] relies primarily on monitoring the research literature ourselves. We’re not quite as plugged into what’s going on and we get the research information later than if we had active interactions with researchers.”<sup>25</sup>

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<sup>24</sup> Personal communication, Terry Sullivan, Ontario Institute for Work and Health, April 3, 1998.

<sup>25</sup> Personal communication, Jim Houston, Nova Scotia WCB, May 5, 1998.

On the other hand, it is not difficult for WCBs to contract researchers to prepare up-to-date summaries of the state-of-the-art knowledge regarding specific issues. This is what is done by the Nova Scotia and Alberta Boards, and it has been done successfully by the BC Board on many occasions.

One difficulty with this approach was mentioned by the representative of the Alberta Board—unless you have good networks with the research community, it’s sometimes difficult to identify a good person to prepare a state-of-the-art report. A more serious difficulty with this approach, we believe, is that, unless you are active in research or actively interacting with researchers, you may not know the right questions to ask, or you may not be inclined to ask them. As the representative of Quebec’s IRSST said: “In order to ask the right questions, people need to be knowledgeable about the research that is going on.”<sup>26</sup>

A good example is the aluminium smelter bladder cancer case that was appealed to the BC Board in the early 1990’s (discussed in Section 4.1). At the time this appeal was being conducted, the BC Board’s policy related to causality was very much out-of-date. However, apparently no one at the Board had thought to review the latest research in the area in order to update this policy. If the Board had been active in funding research in this area—or even in related areas—it is probably more likely that it would have crossed someone’s mind that the policy might need updating based on the latest research results.

Overall, we would rate the validity of this rationale for the conduct of strategic research in the BC WCB as *medium*.

**Rationale 2:** Unless the BC Board carries out research itself it won’t have effective access to the results of research elsewhere. This is because you have to be active in research, including exchanging information and collaborating with other researchers, in order for other researchers to openly share information regarding their research with you.

**Validity:** The second sentence in the statement of this rationale is correct—it definitely helps to be “a member of the club”. This argument is used in the Ontario research strategy document:

“Ontario researchers will also need to participate in national and international networks to collaborate on projects and share critical information. Such participation will help Ontario to be at the leading edge of research, and **reap benefits from research carried out in other jurisdictions. The province’s contribution to the international body of research will enable it to take a “seat” at the “international table”** [our emphasis].”<sup>27</sup>

This opinion was echoed by researchers in this area. For example, the President of the Institute for Work and Health said: “The ‘seat at the table’ argument is very valid. You need to have relationships with other researchers in order to have effective access to their research findings.”<sup>28</sup>

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<sup>26</sup> Personal communication, Jean-Yves Savoie, IRSST, May 3, 1998.

<sup>27</sup> *Op. Cit.*, Solutions for Workplace Change, page 8.

<sup>28</sup> Personal communication, Terry Sullivan, Ontario Institute for Work and Health, April 3, 1998.

However, the fact that you need to be active in research to have truly effective access does not make this a valid rationale for the funding of strategic research. The BC WCB can contract researchers to get access to research elsewhere, and these contracted researchers are by definition “a member of the club”. Therefore, we would rate the validity of this rationale as *low*.

**Rationale 3:** Unless the BC Board carries out research itself, it won’t have the technical knowledge to be able to understand the results of research conducted elsewhere.

**Validity:** Through our interviews with researchers and our review of some of the research reports in this area we have become convinced that it would be difficult for lay people to fully understand the research conducted on some of these topics. (By “understand” here we are including the ability to critically question the methodology, know whether the results of other relevant research have been fully taken into consideration, know whether there is bias involved in the conclusions, and so on.) The researchers we interviewed tended to agree with this: “This research can be technical—for example, I don’t fully understand WCB research outside of my field [economics and policy analysis]. You need to know the subject area and the methodology.”<sup>29</sup>

However, as with Rationale 2, it doesn’t follow that this is a valid rationale. In most cases the necessary understanding can be transmitted to the Board staff by researchers who are contracted to address specific issues. Therefore, we would rate the validity of this rationale as *low*.

**Rationale 4:** Unless the BC Board carries out research itself, it has no control over the research agenda. Research which is important to the BC WCB and its stakeholders may simply not be carried out by other parties.

**Validity:** We believe this is a valid reason for the conduct of strategic research by the BC Board. There is no reason to expect that the research priorities of the BC WCB will be met by researchers over whom it has no control. If an issue or problem is identified that has cost, program, or policy implications in BC, it would be highly undesirable to have to wait until someone else decides to take the issue on.

For example, there is considerable interest within the Board in addressing the question of the reasons for the high injury rate in BC, and this research probably won’t be carried out unless the BC Board funds it. Both of the major studies discussed in Section 2.2 are examples of projects that were seen to be important to the BC Board which were not being carried out elsewhere. (The High Risk project could only be carried out in BC, since it is based on BC data and would not be of interest to other WCBs. It is conceivable that the Low Back Pain Disability project might have been carried out by another WCB at some time in the future, but no other WCB is engaged in this research at the present time.) Two of our interviewees pointed out that, for these two projects, the BC Board is one of the few organizations with the research capacity, the mandate, and the political will to do this kind of research.

Interviewees mentioned a number of other studies they felt would be important to the BC Board and its stakeholders which would be unlikely to be carried out elsewhere. These included:

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<sup>29</sup> Personal communication, Terry Thomason, McGill University, May 20, 1998.

- further study of the issue of bladder cancer due to aluminium smelter practices—e.g., how much of this due to past practices is going to appear over the next 20-30 years? How much risk still remains in current practices?
- a study of the implications of reduced future cutting of old-growth timber on workplace injuries in the forestry industry; and
- a study of the implications of the apparent demise of the commercial fishery and the shift to aquaculture.

Some of our interviewees also made the argument that because of the BC context—and, in particular, because of the unique nature of some of our industrial sectors—research conducted elsewhere may not be totally applicable in BC. While this may be true in a few cases (including a few of the examples mentioned above), and while it is certainly the case that research conducted in other jurisdictions has to be interpreted carefully, there is not enough research of this nature that this argument on its own would support a significant increase in the BC Board’s strategic research effort.

Overall, because of the reasons outlined in the first part of this discussion, we would rate the validity of this rationale as *high*.

**Rationale 5:** The conduct of research by the BC Board can make a significant contribution to changing the decision-making culture at the Board. Over time, people will be asking more about what the latest relevant research findings are, and, in general, decisions will be based more on evidence than anecdotes (or “politics”).

**Validity:** Although we don’t have a lot of “hard” evidence to support this rationale, we believe it is valid. It is clear that, at the present time, many decisions at the BC Board are based on anecdotal evidence in the absence of any research evidence.

The following are comments excerpted from interviews with six senior managers and researchers at the BC WCB:

- “The main failing of WCBs across Canada is too much reliance on anecdotal evidence. WCBs live on anecdotes and hearsay. There is not enough reliance on evidence-based research.”
- “This is a good reason to put more focus on research. It would be nice to see more evidence-based decisions, and a stronger base of research activity would contribute to this.”
- “This is the main rationale for the Research Foundation. More and better-focused strategic research would provide a greater force for evidence-based practice. Research would have more visibility, and there would be increased emphasis on finding out the latest state of knowledge, as opposed to “my opinion versus your opinion”. Increased research could even help to diffuse labour-management tensions.”
- “For decisions regarding complex diseases, and in the occupational disease area in general, research could help to break down the distrust between the stakeholders and the Board.”
- “The Research Foundation would be a tool to change the culture at the Board—to become more thoughtful and analytical and less anecdotal and “political”.”
- “It’s true that the Board relies heavily on anecdotes—primarily because often there isn’t any other information. The policy manuals are good examples of this. They don’t lay out general

principles based on evidence, but just recount anecdotes and describe what has been done in the past.”.

The culture of the Board will not change overnight as a result of a major research program; but if the research program is structured correctly, we believe it will change over time. We would rate the validity of this rationale as *high*.

**Rationale 6:** The conduct of a significant research program by the BC Board will help to improve the Board’s image. It will help to build credibility with the stakeholders and the government, as well as with the general public.

**Validity:** This is a subsidiary rationale to Rationale 5, and it is probably true. High calibre research would help to support the credibility of the Board’s decisions in a highly politicized environment. This rationale is probably not as important as Rationale 5, but it cannot be dismissed as unimportant in BC, where the atmosphere surrounding Board decision-making is highly politicized. We would, therefore, rate the validity of this rationale as *medium*.

**Rationale 7:** The funding of research by the BC Board will help to develop the knowledge base and expertise among (mainly local) researchers, who can then be used by the Board for advice and assistance.

**Validity:** In the discussion of Rationales 1 through 3, we described the need for Boards to be able to contract researchers to prepare up-to-date summaries of the state-of-the-art knowledge regarding specific issues. The “advice and assistance” referred to in Rationale 7 includes this sort of advice and assistance, but it also includes advice provided on a more informal basis and general problem-solving assistance.

There is no question that WCBs need to have access to researchers for these purposes. The importance of being able to contract people to carry out reviews was discussed under Rationales 1-3. The importance of having researchers available for other kinds of advice and assistance was referred to in our interviews by both WCBs and researchers themselves:

- The CSST reported that over the past several years they have made a number of requests to the IRSST to help with identifying solutions to specific health and safety problems.<sup>30</sup>
- The Director of Regional Services for the BC WCB said he “would do this more if there were more researchers around who were heavily involved in WCB issues”.<sup>31</sup>
- The IRSST reported that there are lots of demands for their expertise for elaborating research results, to participate in developing strategies for addressing specific issues, and for training.<sup>32</sup>
- The Ontario Institute for Work and Health reported that people call them “all the time” for information and advice.<sup>33</sup>

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<sup>30</sup> *Op Cit.*, Goddeau.

<sup>31</sup> Personal communication, Steve Brown, BC WCB, May 15, 1998.

<sup>32</sup> *Op Cit.*, Sovie.

<sup>33</sup> *Op Cit.*, Sullivan.

Someone certainly needs to be funding research in order for these competencies to be developed, but that could well be other WCBs, university granting councils, and so on—i.e., the BC Board doesn't have to be funding the research in order to have access to the competencies. The relevant question is: Is there any real advantage to having the BC WCB be a contributor to the development of the required knowledge base and expertise among researchers? We have identified four possible reasons this might be the case:

- If a Board is actively involved with researchers it's easier for them to identify people they can refer to for advice and assistance.
- Active involvement with researchers helps develop of the kinds of trust relationships which facilitate the provision (and the acceptance by the Board) of advice and assistance.
- If the Board is known to be a supporter of research and researchers, this enables the Board to feel that they have more of a "right" to contact researchers for informal advice and assistance, and it gives researchers more of a feeling that they have an "obligation" to provide this advice and assistance. As one researcher said: "You need to give incentives to the researchers in order for them to spend time providing advice."<sup>34</sup>
- In general, if Boards are actively involved with researchers, these kinds of interactions are more convenient. As the representative of the Nova Scotia Board said: "If we could afford it, we would love to have a research institute to be able to refer to for advice and assistance."<sup>35</sup>

Overall, we would rate the validity of this rationale as *medium*.

**Rationale 8:** The BC Board should fund strategic research in order to contribute its "fair share" to the overall research effort in this area.

**Validity:** We believe this rationale has some validity. It is clear that there is a high need for research in this area, and somebody needs to fund it. Quebec and Ontario each contribute on the order of \$10 million per year to the research effort, so it seems reasonable that BC should contribute on the order of \$3 million dollars per year.

As two of the interviewees at the BC Board said:

- "There just isn't enough known about occupational diseases. Everyone who can needs to contribute."
- "We have the financial wherewithal and the social mandate to be able to contribute our fair share to the body of useful knowledge."

We would rate the validity of this rationale as *medium*.

**Rationale 9:** The BC Board needs to fund research, because some of the important questions are too big—i.e., too expensive—for any one Board to address on its own.

**Validity:** There may be some truth to this, and some research in this area is clearly expensive—e.g., much of the research on occupational diseases, which involves following cohorts of people for many

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<sup>34</sup> Personal communication, Morley Gunderson, University of Toronto, May 25, 1998.

<sup>35</sup> Personal communication, Jim Houston, Nova Scotia WCB, May 5, 1998



years. However, the people we interviewed were unable to identify any questions which are too expensive for any one Board to address on its own. Therefore, we would rank the validity of this rationale as *low*.

**Rationale 10:** The BC Board needs to fund and conduct research, because if it simply relies on the research conducted elsewhere, it will have a more difficult time convincing stakeholders and the government to accept the results.

**Validity:** This argument was put forward by several people with long experience in workers' compensation in BC. It seems to us to be valid to some extent. The BC situation is highly politicized, and virtually all decisions — especially decisions involving changing the status quo — are the subject of considerable controversy. Doing research locally and, in certain cases, involving BC employers and unions in the conduct of the research, should help to increase the acceptability of the results.

We would rate the validity of this rationale as *medium*.

## Summary

Our views regarding the validity of the ten rationales are summarized in the following table.

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### Validity of Possible Rationales for Strategic Research to be Funded by the BC WCB

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	High	Medium	Low
(1) Knowledge of research elsewhere		✓	
(2) Access to research elsewhere			✓
(3) Understanding of research elsewhere			✓
(4) Generation of results important in BC	✓		
(5) Effect on decision-making culture	✓		
(6) Effect on external image		✓	
(7) Access to competencies		✓	
(8) BC's fair share rationale		✓	
(9) Big projects rationale			✓
(10) Acceptance rationale		✓	

On balance, we believe there are enough sufficiently good reasons for the BC Board to conduct strategic research that the establishment of a research fund of the magnitude that has been proposed is supportable.

## 6. The Structure and Operation of the Research Foundation

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As mentioned in section 2.3, the various options for the structure and operation of the proposed Research Foundation (more properly called a “research fund”) are currently being studied by the Board’s Policy Bureau. We provide in this section the recommendations of the study team on this subject based on the findings presented in the previous sections, as well as the study team’s accumulated experience in the analysis of research programs and policies.<sup>36</sup>

Our basic premise is that the following two conditions are both essential for the success of the Foundation:

- (1) The process used to identify research projects and conduct the research must be **objective** and highly **credible**.
- (2) The research that is carried out must be **useful** to the Board and other stakeholders and have significant **beneficial impacts**.

If either of these conditions does not hold, the Foundation will not be successful.

There has been some suggestion that the Foundation should be independent from the Board – i.e., a stand-alone institute which would make its own decisions regarding which research would be funded, without being subjected to the need for final approval by the Board. The advantage of independence is that the Foundation would not be controlled – and would not be seen to be controlled – by the Board. This would help to ensure that its operations would be (and would be seen as) objective and neutral, **provided**, of course, that its operations were not controlled by any other special interest group or groups. (A research foundation controlled by interest groups would be seen as producing ideologically-motivated arguments, not research.)

The problem with this is that if the Foundation were independent, its research would be less likely to be used by the Board (i.e., condition 2 would not hold), as we have seen in the case of previous structure of the IRSST in Quebec and the Institute for Work and Health in Ontario. In addition, the Board obviously needs some degree of control over the research agenda to ensure that its own main research priorities are addressed.

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<sup>36</sup> This experience spans more than a dozen years and includes evaluations and other reviews of virtually all the major research programs and policies in Canada, as well as programs in other countries. Our work includes evaluations of:

- most of the major programs of the federal research granting councils, including all programs of the Natural Sciences and Engineering Research Council
- the Networks of Centres of Excellence Program
- federal government research laboratories (e.g., the research institutes of the National Research Council, the research laboratories of the Department of Fisheries and Oceans)
- federal government research programs (e.g., the Energy Research and Development Program, the research program of the Canada Mortgage and Housing Corporation)
- provincial government research programs (e.g., the BC Health Research Foundation, the Ontario University Research Incentive Fund)
- government-supported research institutes (e.g., the Canadian Institute for Advanced Research)
- international research programs (e.g., the international Human Frontier Science program, the Earth Observation Program of the European Space Agency).

The structure we have proposed involves the Foundation reporting to the Board but, at the same time, having a high degree of independence in its operations from both the Board and interest group influence. This should not be seen as a compromise – it is the structure that maximizes the probability that the two critical conditions will both be met.

Following are 19 recommendations regarding the structure and operation of the Foundation. These recommendations are intended to be an integrated set – i.e., they should not be seen as a group of individual recommendations from which one can pick and choose.

**Recommendation 1:** The Foundation should have a Research Advisory Board (RAB) which is responsible for making recommendations regarding research priorities and the funding of research projects. The RAB should include representatives of all of the three main user groups – the WCB, labour, and employers.

**Reason:** Meaningful involvement of the main user groups will help to ensure that the research is highly relevant (i.e., has a high degree of potential usefulness and impacts), and it will increase the probability that the research is paid attention to by the user groups and actually used. Advisory committees of this nature are accepted practice for well-structured research programs.<sup>37</sup> Two programs for which this has not been the case are discussed in Section 3 – the previous structure of Quebec’s IRSST and the Ontario Institute for Work and Health, and we have seen that in these instances the utilization of the research by the WCB has been relatively low.

**Recommendation 2:** The research/academic community should also be represented on the RAB.

**Reason:** This will have a number of benefits:

- (1) it will help to keep the RAB from being dominated by stakeholder groups (and potentially politicized);
- (2) it will enhance the academic credibility and validity of the research; and
- (3) it will positively affect the perception of the independence and objectivity of the research.

The Ontario Occupational Disease Panel, discussed in Section 3.2, provides an example of the negative effects of too much control by stakeholders and too little control by the research community. The BC WCB’s Grants and Awards program may be another example of this, although we did not analyze this program in detail. Several of our interviewers referred to the Grants and Awards program as only supporting research which represents the interests of stakeholder groups.

**Recommendation 3:** The RAB should be made up of two WCB representatives, two labour representatives, two employer representatives and three representatives of the research/academic community. Decisions should be made on the basis of majority votes.

**Reason:** All three reasons discussed under Recommendation 2 apply. In addition, this composition of the RAB – and the requirement for formal voting – will ensure that no single user group, or no two

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<sup>37</sup> For example, the federal government’s Energy Research and Development Program – see *Evaluation of the Energy Research and Development Program*, The ARA Group, April, 1991.

user groups in combination, will be able to block the decision-making. It also ensures that no two user groups will be able to team up (e.g., to divvy up the available funds).

**Recommendation 4:** One of the representatives of the research/academic community should serve as the Chair of the RAB.

**Reason:** This will further enhance the perception of the independence and objectivity (and the partial “arm’s-length” nature) of the Foundation, thereby enhancing its credibility.

**Recommendation 5:** The representatives of each of the three user groups on the RAB should not be “political” representatives of their groups, but, instead, should be selected on the basis of their commitment to and knowledge about research.

**Reason:** Every effort should be made to ensure that the operation of the Foundation does not become politicized. The appointment of RAB members on this basis should help in this regard, as it has in the case of Quebec’s IRSST: “The Scientific Committee is not a political committee. The members are people who are concerned with research and knowledgeable about research and research needs.”<sup>38</sup>

**Recommendation 6:** The two main criteria for approving proposed research projects should be the quality and the relevance (potential impacts and benefits) of the research.

**Reason:** Both of these are necessary in order for the research to be useful and beneficial. A common mistake in research programs is to focus only on quality when selecting and evaluating research projects. In these cases, the usefulness of the research is generally less than it could be.<sup>39</sup>

**Recommendation 7:** There should be a formal method to ensure that proposed projects are of high quality and high relevance before they are considered by the RAB. This could be done through a sub-committee of the RAB or a “modified peer review process”. (Modified peer review involves the joining of some form of socioeconomic impact assessment with traditional peer review.<sup>40</sup>)

**Reason:** The RAB will have neither the expertise nor the time to fully assess proposals with regard to these two main criteria. In addition, some form of peer review is an essential component of building credible and valid research.

**Recommendation 8:** Research proposers should be required to identify the primary intended users (the specific organizations) and uses of the research in their proposals. Letters of support from these organizations should also be required, outlining the likely uses and impacts of the research.

**Reason:** Experience has shown that this is the best method for ensuring a high degree of relevance. Most researchers are highly skilled in writing about the benefits that can be expected from their

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<sup>38</sup> Personal communication, Yves Goddeau, May 27, 1998.

<sup>39</sup> See, e.g., *Evaluation of the Arctic Science Program of the Department of Fisheries and Oceans*, The ARA Group, September, 1991.

<sup>40</sup> See *Measuring the Economic Benefits of Research and Development: The Current State of the Art*, Douglas Williams and Dennis Rank, *Research Evaluation*, April, 1998.

research, and it is important to have some form of validating these opinions. Letters of support from user organizations is a method that has been successfully used in other research programs.<sup>41</sup>

**Recommendation 9:** The terms of reference for the RAB should not try to specify what kinds of research are, and are not, acceptable.

**Reason:** These recommendations contain sufficient mechanisms to ensure a high degree of relevance. Going further, would be unnecessarily restrictive and could limit the flexibility of the RAB. (The draft charter for the Research Foundation indicates that the research which would be supported would be limited to "research to contribute effectively to the Board's operations and strategic plan".)

**Recommendation 10:** The Foundation should not be structured as an independent arm's-length research organization. It should be accountable to the BC WCB.

**Reason:** Experience elsewhere has shown that this will enhance the relevance of the research and the extent to which it is used. (See, e.g., the discussion of the history of Quebec's IRSST in Section 3.1.) In addition, it is important to ensure that the Board's main research priorities are met.

**Recommendation 11:** The RAB should report to the Panel of Administrators, not the Senior Executive Committee.

**Reason:** This will help to create some "space" between the Foundation and the Board's operating staff, and it should also enhance the connection between the Foundation and the broader community, since Panel appointees are intended to be community/stakeholder representatives. It will also ensure that the Panel is kept up-to-date regarding the Foundation.

**Recommendation 12:** For projects with budgets in excess of \$100,000 (or some similar threshold), proponents should be required to submit a comprehensive review of the state of knowledge in the subject area to the RAB prior to the initiation of the project.

**Reason:** The RAB needs to be assured that there is no unnecessary duplication of research that has been conducted elsewhere. The RAB also needs to understand how the proposed project fits in with the current state of knowledge.

**Recommendation 13:** WCB staff should not be excluded from applying for research grants; but WCB operational research should continue to be conducted in-house.

**Reason:** Support should be available for WCB staff priorities for strategic research, and the Foundation should also offer an opportunity to take advantage of the accumulated experience and expertise of the staff. However, there should be a clear separation between strategic and operational research, with the Foundation only responsible for the former.

**Recommendation 14:** A project advisory committee, consisting of representatives of the identified user groups, should be appointed to monitor all research projects with budgets in excess of \$200,000 (or some similar threshold).

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<sup>41</sup> For example, the Strategic Grants program of the Natural Sciences and Engineering Research Council. See *Evaluation of NSERC's Strategic Grants Program*, The DPA Group (now The ARA Group), January, 1988.

**Reason:** This will help to keep these projects on track, and it will also increase the probability that the research is paid attention to and used.<sup>42</sup>

**Recommendation 15:** The Foundation should not get involved in training. If it is deemed necessary to allocate some of the funds from the Foundation's endowment to training, a separate training program should be set up.

**Reason:** Research and training are distinctly different activities, and combining them would create confusion regarding the Foundation's role. (See, for example, the discussion of the history of the Ontario Workplace Health and Safety Agency in Section 3.2)

**Recommendation 16:** The Foundation should set up a separate (relatively small) program to provide "seed money" for research planning studies (including the reviews referred to in Recommendation 12) and pilot studies.

**Reason:** This will help to ensure that the larger studies are well selected and well planned. It should also assist the Foundation in leveraging funds from other organizations. Programs of this type funded by other research foundations have proven to be very successful.<sup>43</sup>

**Recommendation 17:** There should be a formal performance measurement and reporting system for the Research Foundation.

**Reason:** This is a "must" for all major research programs – for both reporting (accountability) and planning purposes.<sup>44</sup>

**Recommendation 18:** A formal review of the quality, relevance, and impacts of the Foundation should be carried out after its first three years.

**Reason:** It is important that the Foundation be "put on notice" that it will have to report on its accomplishments, and also that all stakeholders know that they will receive a formal report.

**Recommendation 19:** The WCB should provide the Secretariat for the Foundation, and the Secretariat should report directly to the President.

**Reason:** It is important that the Foundation have the highest possible visibility within the WCB, and the President's Office should be accountable for its successful implementation.

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<sup>42</sup> For a discussion of this latter point, see *Study to Review Three Research Consortia of NRC's Institute for Microstructural Sciences*, The ARA Group, June, 1994.

<sup>43</sup> See, e.g., *Evaluation of the British Columbia Health Research Foundation*, The ARA Group, August, 1996.

<sup>44</sup> See *National Research Council Performance Reporting Improvement Project*, The ARA Group, May, 1998.

## **Appendix A**

### **People Interviewed**

## **PEOPLE INTERVIEWED**

### **BRITISH COLUMBIA**

Steve Brown - BC WCB  
Pat Wolczuk - BC WCB  
Dave Anderson - BC WCB  
Tom Kemsley - BC WCB  
Bart Jessup - BC WCB  
Sid Fattedad - BC WCB  
Izabella Schultz - BC WCB  
Keith Mason - BC WCB  
Terry Bogyo - BC WCB  
Brian Erickson - BC WCB  
Ralph Mc Ginn - BC WCB  
Louise Logan – BC WCB  
Jay Rowland – BC WCB  
Bud Du Gas – BC WCB  
Ron Buchhorn – BC WCB

### **ONTARIO**

Linda Jolley - Workplace Safety and Insurance Board  
Dave Williams - Workplace Safety and Insurance Board  
Jim Stewart - University of Toronto  
Terry Sullivan - Institute for Work and Health  
Morley Gunderson – University of Toronto

### **QUEBEC**

Jean Yves Savoie – IRSST  
Yves Goddeau – CSST  
Terry Thomason - McGill University

### **NOVA SCOTIA**

Jim Houston - Nova Scotia WCB

### **ALBERTA**

Michael Plumb - Alberta WCB