Educational Offerings in Health and Safety in Canadian Post-Secondary Institutions: A Survey of Canadian Schools (RS2011-IG38)

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TABLE OF CONTENTS

SUMMARY

- The vast majority of formal, post-secondary OHS education/training in Canada is offered at certificate and diploma program levels. The majority of certificate level programs are offered at the college level and a large proportion is offered in a distance learning format and for part-time study. Many of these certificate and diploma level programs are targeted towards individuals working or seeking employment as OHS professionals with primary responsibility for coordinating and managing OHS programs within business or industry sectors.
- Only a small minority of formal, post-secondary OHS education/training is university-based and offered at the baccalaureate and graduate degree levels. Minimal OHS education/training is provided in the undergraduate or graduate degree level programs of professionals training for the fields of engineering or business. Many engineering graduates and business managers may be entering the Canadian workforce with minimal or no awareness/understanding of fundamental concepts of OHS.
- Only minimal OHS education/training is provided across pre-licensure and undergraduate health professional education programs, particularly in medicine and nursing. Where OHS instruction is offered, it is often non-mandatory and is given minimal emphasis as a topic within a course.
- Study findings suggest gaps in OHS education exist across university-level baccalaureate and graduate degree programs in engineering, business and the health professions. Minimal graduate degree programs also exist across Canada that provides advanced preparation for OHS practitioners working in research, policy and other key leadership roles.

KEY WORDS: occupational health and safety, education, training, higher and post-secondary education, undergraduate, graduate, post-graduate, continuing professional education

EXECUTIVE SUMMARY

Currently, there is no comprehensive guide to what educational and training programs at the post-secondary education level are available in Canada in the field of occupational health and safety (OHS), nor is there a framework detailing what curriculum contents and delivery approaches these programs involve. The purpose of this study was to provide a comprehensive overview of OHS educational offerings across Canada through both an environmental scan of post-secondary institutions and an online survey of health professional education programs. The study was comprised of four components: 1) a literature review; 2) a stakeholder webinar; 3) an environmental scan of OHS educational offerings at universities and colleges in Canada; and 4) an online survey of health professional educational programming.

The stakeholder webinar was intended to explore the perspectives of OHS stakeholders on the current state of OHS education in Canada (e.g., strengths, barriers, limitations, etc.) and to gather information to inform the design and implementation of the study's environmental scan and online survey. An environmental scan was undertaken to identify and describe existing program and course offerings in OHS-related subject areas. OHS program and course offerings in post-secondary institutions were searched by reviewing the institutional website of each university, community college, college d'enseignement général et professionnel (CÉGEP) or polytechnical institute listed by the Association of Universities and Colleges of Canada (AUCC) and the Association of Canadian Community Colleges (ACCC). Course categories were created using thematic analysis technique. Course descriptions were reviewed, compared and contrasted, and general categories were created to group together courses with similar subject matter.

An online survey of OHS educational offerings in health professional education programs across Canadian universities was also undertaken. Purposive and snowball sampling methods were used. A bilingual (English and French) online survey was distributed to Deans, Program

Directors, Associate Deans, or other academic administrative heads of the following health professional education programs: undergraduate medicine, graduate medicine, postgraduate medicine, continuing professional development (CPD) in medicine, undergraduate and graduate nursing, chiropractic, physiotherapy, pharmacy, audiology and speech sciences, and public health. The survey was intended to collect information on each responding institution and academic department, descriptions of its OHS educational offerings at the undergraduate, graduate, postgraduate, and CPD levels, and specific characteristics of the activities offered, including teaching format.

The findings summarized in this report indicate that the majority of formal, post-secondary OHS education/training offered in Canada is at the certificate and diploma program levels. Colleges offer the majority of certificate level programs and, of these, a large proportion is offered to accommodate adult learners studying at a distance or on a part-time basis. Advanced university programs at a baccalaureate and graduate degree level were found to represent only a minority of formal OHS education programs. In addition, minimal OHS education and training was reported in undergraduate or graduate degree programs within the fields of engineering or business. Based on these findings, many graduates in engineering and business may be entering the workforce with minimal to no understanding of fundamental OHS concepts and principles.

Within health professional education, nursing education programs reported the largest proportion of OHS instruction, followed by postgraduate medicine. Of the reported OHS instruction offered by health professional education programs, the highest proportion was reported at the undergraduate education level. However, of the instruction offered almost half was presented as a module, or subject, within a course rather than as an entire course. Minimal OHS education/training is provided in pre-licensure, undergraduate health professional education

programs, particularly in the professions of medicine and nursing. Where instruction is offered, OHS educational offerings are often of an elective nature (non-mandatory) and are given minimal coverage within the courses.

INTRODUCTION

Currently, there is no comprehensive guide to what educational and training programs are available in Canada in the field of occupational health and safety (OHS) and what curriculum contents and delivery approaches these various programs involve. It is possible that the needs and expectations of Canada's key stakeholders in OHS are not being fully addressed by the educational and training opportunities currently available, but no recent study exists that surveys and assesses these opportunities, evaluates the state of affairs and can support efforts at improvement. A review of the literature undertaken for this project revealed a surprisingly small literature, either for Canada or for other countries or regions, covering OHS educational offerings in the health professions and even less for other non-health professions or faculties. In the field of Medicine, we found a significant number of articles on core competencies and training for specialists in Occupational Medicine [1-21], however only a few of these [14,15,22,23] focus on Canada. Several articles discuss the education in OHS issues received by residents in Family Medicine[24-29], although none refers specifically to Canada, and a slightly larger group of articles discuss the inclusion of OHS in undergraduate medical education [7,20,22,28,30-47]. A number of articles, including some recent studies, examine training and core competencies for specialists in Occupational Nursing[48-58], hygienists and/or occupational /physical therapists [59-65], but only one deals with Canada[66]. For the non-medical professions such as business and engineering we uncovered only one article[67] which discussed the lack of OHS training for Canadian engineering students.

Given this gap in current knowledge about the state of OHS education and training available in Canada, the current study was designed to provide an evidence base to assist leaders and managers in Canada's compensation boards, relevant government departments and agencies, educational institutions, business and labor organizations, and industry-level associations in assessing the need for enhanced college, university and health professional educational programming in OHS. The purpose of the study was to provide key stakeholders with an up-to-date, comprehensive survey and analysis of course and program curriculum offerings in the area of OHS at various levels of the Canadian educational system. The findings of the study can, we hope, help stakeholders to acquire a better understanding of capacities and gaps in current educational offerings and resources; identify opportunities for enhancing the use of innovative pedagogical approaches and of new technologies for program delivery; and help decision makers formulate plans for expansion/enhancement of educational offerings and capacity.

METHODOLOGY

The study consisted of four components:

1. a literature review;
2. a stakeholder webinar;
3. an environmental scan of OHS educational offerings at universities and colleges in Canada; and
4. an online survey of health professional educational programming.

Stakeholder Webinar

Before conducting the scan of Canadian OHS programs and educational offerings, we hosted a webinar. Its purpose was to explore the perspectives of stakeholders in the OHS field on the current state of OHS education in Canada (e.g., strengths, barriers, limitations, etc.), and

to gather information to inform the design and implementation of the study's environmental scan and survey.

Invitations to participate in the webinar were sent by mail and e-mail to representatives of national organizations and/or agencies representing universities, colleges and health professional educational institutions, in addition to other governmental contacts (Appendix A). Members of the project team compiled the list of invitees by identifying key stakeholder groups in industry, government, and education across the country. A list of organizational and agency contacts invited to the webinar are presented in Appendix B. The webinar discussion was recorded and thematic analysis was undertaken to identify key emergent themes. Participating stakeholders were asked to discuss five general questions:

1. How would you describe the demand for formal OHS education programming within your organization and/or industry? What are some of the factors influencing this demand?

2. What challenges are experienced in accessing relevant OHS education programming for staff members and/or professionals within your organization and/or industry?

3. How would you describe your organization's or industry group's awareness of current OHS educational programs at colleges, polytechnical institutes, or universities in Canada? What challenges have you experienced in locating useful information on relevant OHS education programming?

4. What knowledge, skills and/or attitudes (e.g., competencies) would be most useful for a staff member and/or professional working in the OHS field in your organization or industry? In other words, what would an OHS professional need to know or be able to do to work proficiently in the OHS field within your organization or industry?

5. Are there gaps in the knowledge, skills and/or attitudes (e.g., competencies) of OHS staff or professionals in your organization and/or industry that could be filled by formal OHS education programs?

Environmental Scan of Educational Offerings

A scan of program and course offerings in OHS in programs other than health professional education was conducted across Canadian post-secondary educational institutions. The scan included all member institutions of the Association of Universities and Colleges of Canada (AUCC) and the Association of Canadian Community Colleges (ACCC). The purpose of this scan was to identify and describe existing program and course offerings in OHS-related subject areas. First, we reviewed formal programs in OHS across universities and colleges in Canada. Formal programs included certificates, diplomas, baccalaureate, masters, doctoral, and postgraduate programs in OHS or related areas. Next, we reviewed individual course offerings in OHS at the undergraduate, graduate, and continuing education levels across faculties/departments of business, engineering, kinesiology, health sciences, environmental sciences, and continuing education.

We used an existing program database of OHS offerings maintained by the Canadian Centre for Occupational Health and Safety (CCOHS) to initiate a search of program offerings. An expanded scan was then undertaken to confirm the listed program offerings and to identify other programs not listed by the CCOHS. All programs were then reviewed to identify specific courses related to OHS and to determine the focus of each program within the field of OHS.

OHS course offerings across post-secondary institutions were searched by reviewing the institutional website of each university, community college, collège d'enseignement general général et professionnel (CÉGEP) or polytechnical institute listed by the AUCC or ACCC. Websites for each faculty or department were individually reviewed for any OHS course

offerings at the undergraduate, graduate, and/or continuing education level. In instances where an online search feature was available, an additional search was carried out for OHS course offerings cited in the institution's electronic academic calendar using a variety of search terms, including: *"occupational health"; "health and safety"; "safety"; "workplace"; "ergonomics"; "biomechanics"; "toxicology"; "hygiene"; "fire"; "protection"*.

Multiple Microsoft Excel files were created to organize program and course offerings by region, program type, course category, and faculty or department. We divided Canada up into five regions: Western Canada (British Columbia, Alberta, Saskatchewan, and Manitoba), Ontario, Quebec, Atlantic Canada (New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador), and the Territories. Course categories were created using thematic analysis methodology. Course descriptions were reviewed, contrasted, and compared by three members of the project team (MH, SB, VC), and general categories were created to group together courses with similar subject matter. The thematic analysis and course descriptions are summarized in the results section, and detailed descriptions of the course categories can be found in Appendix C.

Survey of OHS Offerings in health professional programs

An online survey of OHS course offerings in health professional education programs across Canadian universities was also undertaken using purposive and snowball sampling methods. A bilingual (English and French) online survey was distributed to Deans, Program Directors, Associate Deans, or other academic administrative heads of the following health professional education programs: undergraduate medicine, graduate medicine, postgraduate medicine, continuing professional development (CPD), nursing, chiropractic, physiotherapy, pharmacy, audiology and speech sciences, and public health. Academic programs were identified from information available on the websites of the Association of Faculties of Medicine

of Canada (AFMC), Canadian Association of Schools of Nursing (CASN), Canadian Council of Physiotherapy University Programs (CCPUP), Canadian Association of Occupational Therapists (CAOT), and Canadian Council for Accreditation of Pharmacy Programs (CCAPP). The respondent contact list was then compiled from individual departmental websites.

The online survey was created using FluidSurveys - www.fluidsurveys.com (Appendix D). The survey was intended to collect information from respondents regarding their institutions and academic departments, descriptions of OHS course offerings at the undergraduate, graduate, postgraduate, and CPD levels, and the specific characteristics of the courses offered. Survey items were formatted as open-ended, checklist, or dichotomous questions.

Prospective respondents were contacted both by e-mail and by a mailed flyer (Appendix E). E-mail messages were sent to respondents using a specially created e-mail account called '*Health Education Research*' hosted by a server located at the Faculty of Medicine, Memorial University. The first survey was distributed via e-mail to all contacts in July 2012. Reminder e-mails were sent to non-respondents at two-week, four-week, and ten-week intervals. The first flyer was mailed to respondents two weeks after the initial e-mail and again eight weeks later.

Upon receipt of each completed survey, the specific institution's faculty and contact information was removed from the list of contacts for subsequent reminders. The survey results were summarized using descriptive statistical analysis.

RESULTS

Key Lessons from the Stakeholder Webinar

Invitations were forwarded to 70 contacts from post-secondary educational institutions, governmental departments and agencies, national and provincial organizations. Eight invitees (11%) participated in the webinar from which three key themes emerged.

Increased demand for OHS educational programming. Formal education or designation in OHS has become a minimum requirement for hiring in the OHS professional field. Participants felt that an appropriate combination of education and experience is necessary for employability.

Improvement of OHS management. Participants identified the importance of developing competent OHS managers - or developing OHS competencies in managers - through increased education and training in topics such as risk management, injury, and risk assessment.

Barriers to accessing OHS education. Participants identified concerns about the potential barriers and challenges facing individuals seeking OHS education. Such barriers included: uncertainty about where to find OHS educational offerings; the lack of a centralized OHS education database or repository; limited awareness of OHS educational programs across the country; uncertainty regarding the quality of programming given the absence of a national accreditation system for OHS education; and the limited availability of, and access to, OHS educational and training programs and courses.

Results of our Scan: Formal OHS Programs Offered in Canadian Post-Secondary Institutions

Table 1 summarizes the total number of post-secondary institutions reviewed in the scan and provincial populations as indicated by the Statistics Canada 2012 Census. These represent all institutions listed as members of the AUCC and ACCC. Of the 225 institutions, 101 are identified as universities and 124 as colleges (including CÉGEPs and polytechnic institutes). Four institutions are listed in both categories as they confer both university and college degrees.

Table 2 summarizes the total number, and proportion, of OHS programs offered in Canada according to the education level or distinction conferred upon completion. The scan revealed a total of 87 formal OHS programs across Canada (Appendix F). Certificate programs

Table 1 Post-Secondary Institution and Populations in Canada by Province and Region

Region	Province	Universities	Colleges, CÉGEPs, & Polytechnic Institutes	Total Institutions (N)	Population (%)*
Western	British Columbia	11	19	30	4,622,600
	Alberta	8	13	21	3,873,000
	Saskatchewan	6	9	15	1,080,000
	Manitoba	5	5	10	1,267,000
Western Total		**30**	**46**	**76**	**10,842,600 (31.1%)**
Ontario	Ontario	**32**	**27**	**59**	**13,505,900 (38.7%)**
Quebec	Quebec	**18**	**40**	**58**	**8,054,800 (23.1%)**
Atlantic	Nova Scotia	10	5	15	948,700
	New Brunswick	4	3	7	756,000
	Prince Edward Island	1	2	3	146,100
	Newfoundland & Labrador	1	3	4	512,700
Atlantic Total		**16**	**13**	**29**	**2,363,500 (6.8%)**
Territories		**0**	**3**	**3**	**113,100 (0.3%)**
TOTAL		**101**	**124**	**225**	**34,880,500**

*Statistics Canada 2012 census.

Table 2 Types of OHS Programs Offered in Canada

Certificate	Diploma	Bachelor's	Master's	PhD	Medical Residency	Total
49 (57%)	20 (23%)	4 (5%)	7 (8%)	4 (5%)	3 (3%)	**87**

represented the majority (n = 49, 56%) of all OHS programs, followed by diploma programs (n = 20, 23%). OHS Baccalaureate programs (n = 4, 5%) were identified at Cape Breton University (Bachelor of Health Sciences in Public Health), the University of New Brunswick (Ergonomics program), Ryerson University (Bachelor of Occupational and Public Health program), and the University of Waterloo (Bachelor of Kinesiology – Ergonomics Option), while Master's programs (n = 7, 8%) were found at McGill University, the University of Toronto, Université de Montréal, and the University of British Columbia. Of these universities, OHS program names varied from Master's of Occupational Health, Master's of Occupational and Environmental Health, Master's of Environment Health and Occupational Health, to Master's of Occupational and Environmental Hygiene. PhD program offerings in OHS programs (n = 4, 5%) were discovered at four universities including McGill University, the University of British Columbia, the Université de Montréal, and the University of Waterloo. Lastly, three (n = 3, 3%) residency programs in Occupational Medicine were found at the University of Alberta, and the University of Toronto and the Université de Montréal

Figure 1 presents the total number of OHS programs offered at post-secondary institutions in Canada by region and the regional population proportion. Ontario was found to offer the largest proportion of programs (n = 27, 31%), followed by the Western region (n = 24, 28%) and Quebec (n = 22, 25%). The remaining 16% (n =14) of programs were dispersed among the four provinces in the Atlantic region. There were no formal program offerings identified in any of the Territories. The OHS programs identified by the scan were distributed almost equally between colleges[1] (n = 44, 51%) and universities (n = 43, 49%). Relative to

[1]Quebec CÉGEP programs provided 6% (n=3) of programs in the college division.

population, there did not appear to be any noticeable discrepancies in the overall proportion of programs offered across the regions of Canada.

Figure 1 Occupational Health & Safety Programs Offered in Canada by Region

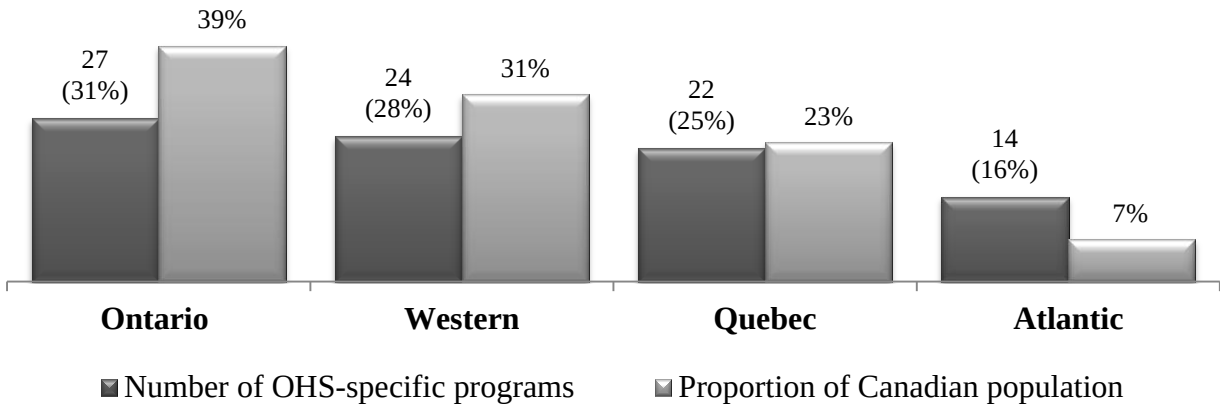
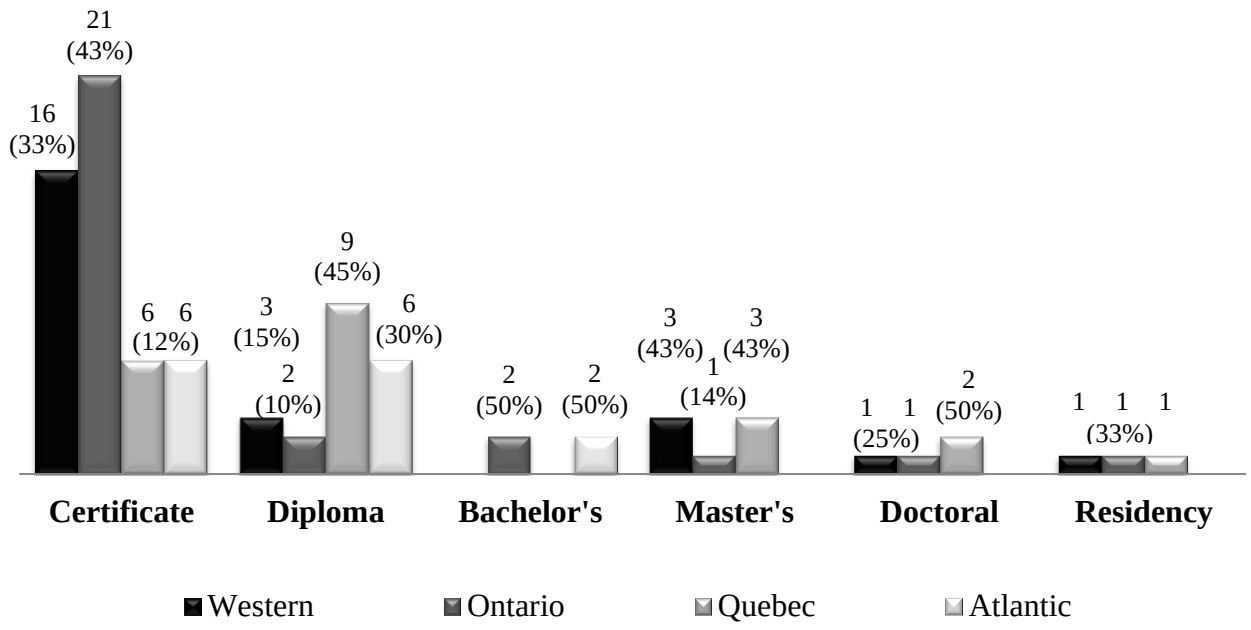


Figure 2 illustrates the regional distribution of the various educational levels/designations of formal OHS programs offered across Canada. Program offerings in Ontario were found to have the largest proportion of general OHS educational opportunities at the certificate level (n = 21, 43%). Quebec institutions offered the largest proportion of diploma and PhD programs (n = 9, 45% and n = 2, 50%, respectively). Half of the country's four baccalaureate programs were offered in Ontario (n = 2, 50%) and half in the Atlantic region. Finally, one of the three postgraduate medical residency programs in OHS is available in each of Ontario, Quebec and Western Canada (more specifically, in Alberta).

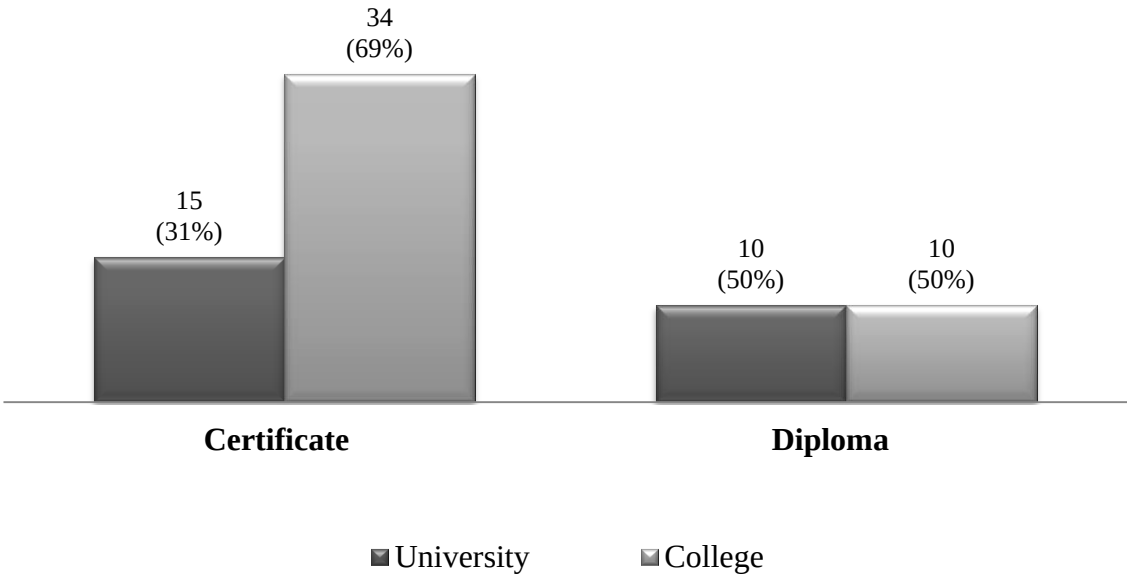
Of the 87 formal OHS programs identified, seven (8%) programs were in Occupational Health Nursing. All of these programs were at the certificate level and spanned Ontario (n = 5, 6%), Alberta (n = 1, 1%), and British Columbia (n = 1, 1%). There were no formal program offerings in Occupational Health Nursing identified in the Atlantic region or in any of the Territories.

Figure 2 **Type of Occupational Health & Safety Education/Training Programs Offered in Canada by Region**



As certificate and diplomas account for 80% (n = 69) of all OHS educational programs, Figure 3 summarizes the distribution of those two programs according to institution type. Colleges account for the vast majority (n = 34, 69%) of the 49 certificate programs offered in

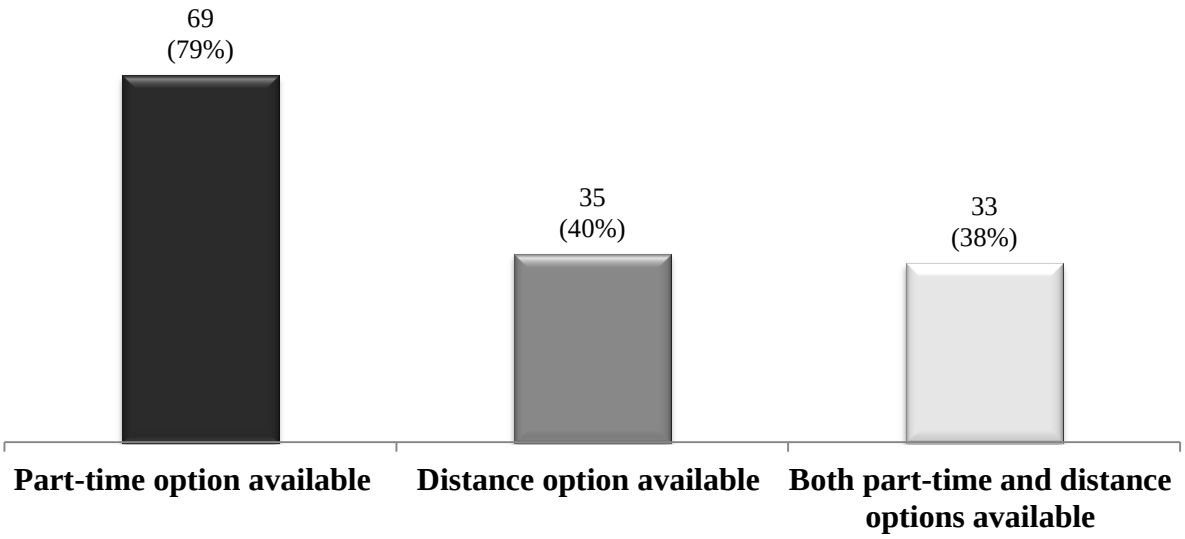
Figure 3 **Occupational Health & Safety Certificates and Diplomas Offered in Canada; by Institution Type**



Canada. The 20 Canadian diploma programs in OHS are distributed equally across colleges and universities with 10 being provided by each category of institution.

Many OHS programs are offered for individuals currently employed on a full-time basis in the public or private sectors of the labor force. As such, the demand for distance education and part-time studies in the OHS education field would appear to be high. Figure 4 illustrates the delivery methods of formal OHS education/training programs. Forty percent (n = 35) of all formal OHS education/training programs were available in distance-learning formats and 79% (n = 69) of all programs were available on a part-time basis. Thirty-eight (n = 33, 38%) of the 69 OHS certificate and diploma programs were available both by distance and part-time study.

Figure 4 Proportion of Occupational Health & Safety Education/Training Programs Offered with Distance and Part-Time Options



Scan of OHS Course Offerings in Non-OHS Specific Programs

The scan of OHS course offerings in non-OHS specific programs[2] in Canadian post-secondary institutions yielded an overall total of 551 OHS-centric courses spanning eight course categories. Fifty-four percent (n = 293) of the courses were at the college level and 47% (n = 258) at the university level. Table 3 summarizes the eight categories that emerged from the

Table 3 Categories of OHS Courses offered in Canadian Colleges and Universities

Category	General Description
General OHS	General overview of OHS practices and issues pertaining to the workplace
OHS Management, Risk Assessment / Prevention	Managing OHS from an employer, supervisor, or manager perspective
Occupational Ergonomics & Biomechanics	Ergonomic and biomechanical principles that may affect or prevent occupational issues or injuries
Biological / Chemical / Physical OHS	Understanding and application of occupational chemical and physical hazards
OHS Legislation / Law	Understanding and application of OHS legislation and how it can affect employees and employers
Fire Protection	Managing OHS issues pertaining to fire and fire safety
Occupational Health Nursing[3]	Applying OHS knowledge, skills, and attitudes to nursing specific practices for improved safety for medical staff and patients
Mental / Psycho-social OHS[3]	Identifying and managing risks in the workplace that may affect individual's mental health and overall well-being

[2] Courses identified in 'non-OHS-Specific programs' represent courses there were not affiliated with a formal, structured program conferring a distinction in OHS.
[3] The course categories *Occupational Health Nursing and Mental / Psycho-social OHS* were only used in the analysis of OHS-specific programs.

review of courses and course descriptions using thematic analysis. A full description of the course categories can be found in Appendix C. These categories are the basis for further statistical analysis as illustrated in Figures 5, 6, and 7.

Figure 5 summarizes the distribution of courses across the six categories that were common to both universities and colleges in Canada. Colleges were found to offer a higher proportion of courses in the *OHS Overview (44% vs. 21%)* and *Biological /Chemical/Physical OHS* (30% vs. 20%*)* categories. Universities were found to offer a larger proportion of courses in *OHS Management/ Injury & Risk Assessment* (33% vs. 13%) and *Occupational / Ergonomics / Biomechanics* (22% vs. 7%). There were an equal proportion of *OHS Law* courses in colleges and universities (3% respectively), whereas the *Fire Protection* courses were offered only in colleges.

Figure 5 Proportions of OHS Course Offerings in universities and colleges by Course Category

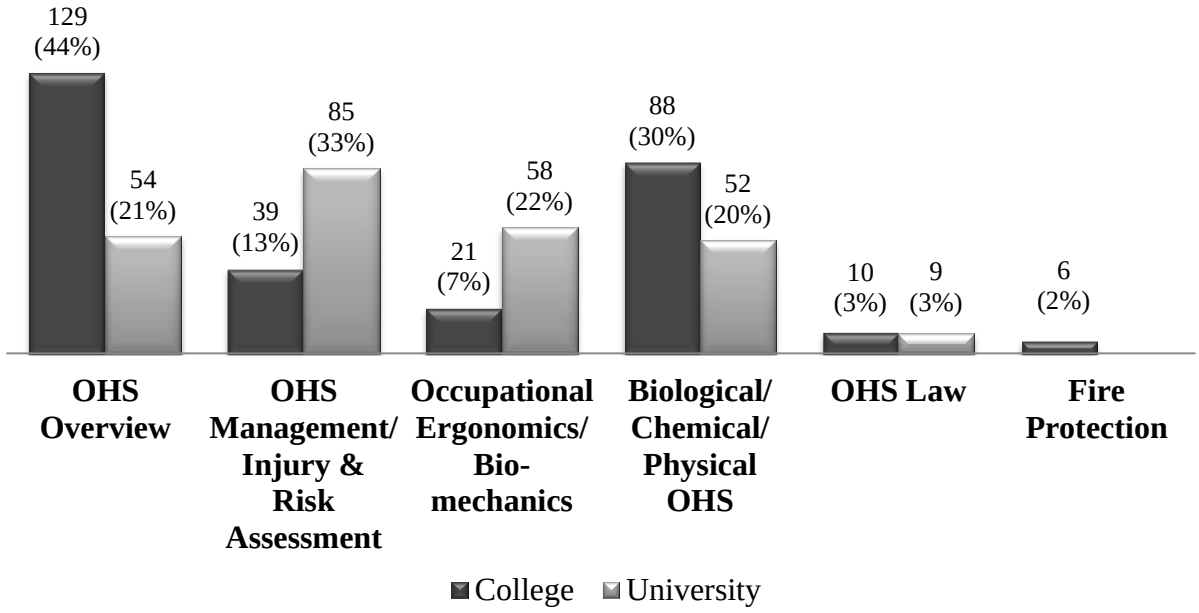


Figure 6 compares the distribution of OHS courses across seven faculties/departments between universities and colleges. Colleges differed from universities in the offering of OHS courses across three faculties/departments: *Industrial Trades and Technology* (10%), *Continuing Education* (30%), and *Other* (1%) (e.g., no identifiable department). Universities were found to provide a greater proportion of courses across three faculties/departments: *Business* (24% vs. 19%), *Engineering* (23% vs. 15%), and *Health Sciences* (45% vs. 14%). Colleges (10%) and universities (8%) offer nearly an equal number of courses in the faculties/departments of *Environmental Sciences.*

Figure 6 Comparison of the Proportion of OHS Course Offerings between University and College; by Faculty/Department

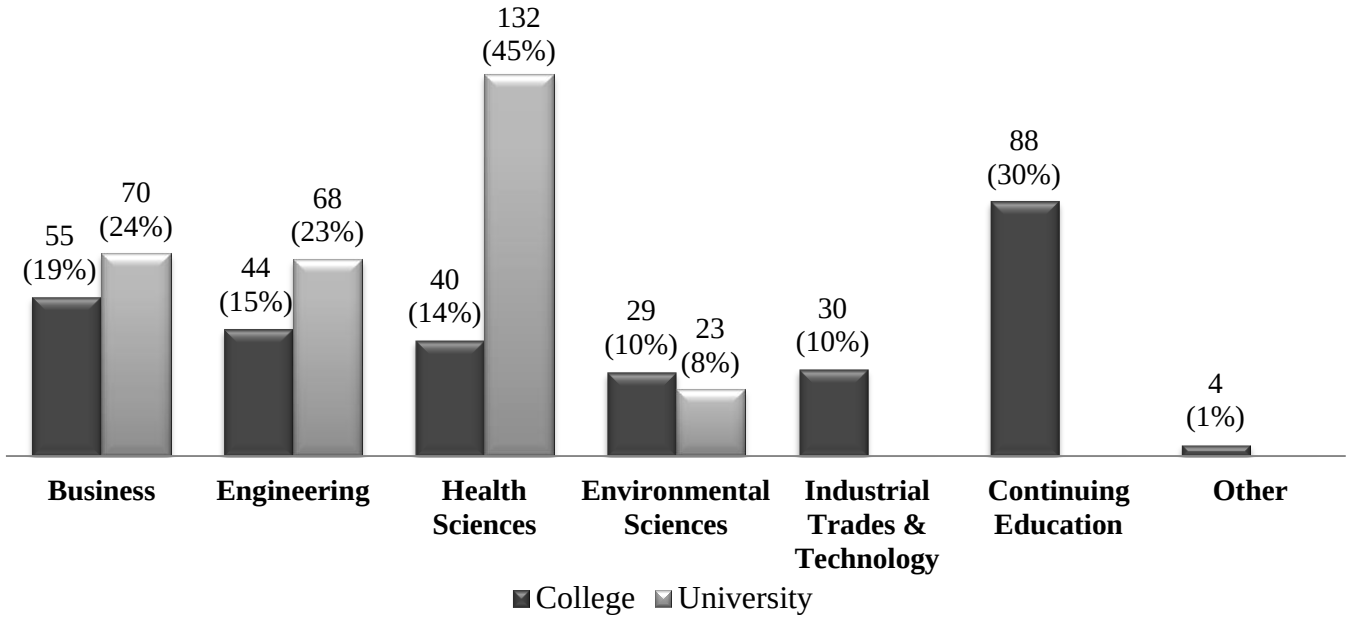
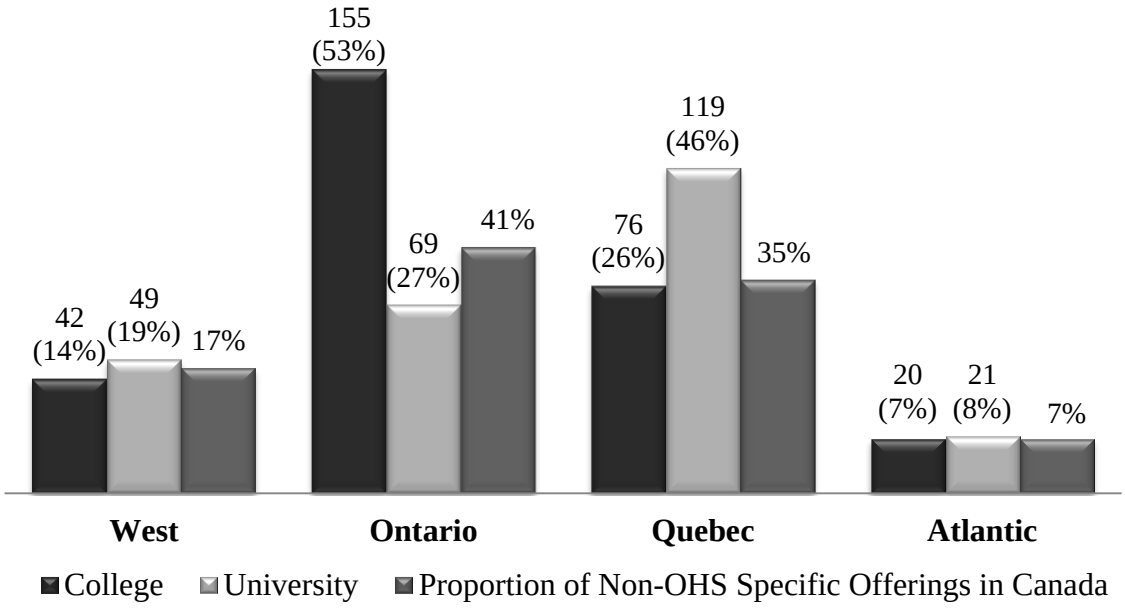


Figure 7 illustrates the distribution of OHS course offerings in non-OHS specific programs across the four designated regions. Fifty-three percent (n = 155) of the total college-level course offerings were provided in Ontario institutions while 46% of the university-level courses were offered by Quebec institutions. As seen in Figure 7, college and university-level course offerings from non-OHS specific programs in Ontario (n = 224) comprise approximately 41% of non-OHS specific post-secondary programs offering OHS courses in Canada (n = 551).

With respect to the Atlantic region, non-OHS specific programs (n = 41) account for approximately 7% of the national total.

Figure 7 Comparison of the Proportion of OHS Course Offerings in Non-OHS Specific Programs between University and College; by Region



Survey of OHS Offerings in Canadian health professional programs

The *Educational Offerings in OHS Survey* was distributed to N = 1063 health professional education programs across Canada. Of this, over 800 programs were at the postgraduate medical education level (e.g., residency programs). Seventy three unique programs (e.g., nursing, medicine) from 37 different post-secondary institutions responded. Of these programs, 171 educational offerings were identified and 74% (n = 54) of the responding programs reported more than one OHS educational offering.

Figure 8 illustrates the regional distribution of educational offerings as reported by Canadian health professional education programs. Western region respondents reported the majority (n = 95, 56%) of offerings, followed by Quebec and Ontario (n = 39, 23%, and n = 32,

19%, respectively). In comparison, the Atlantic region (n=4, 2%) and the Territories (n = 1, 1%) reported limited OHS educational offerings.

Figure 8 Regional Distribution of OHS Educational Offerings in Health Professional Education Programs

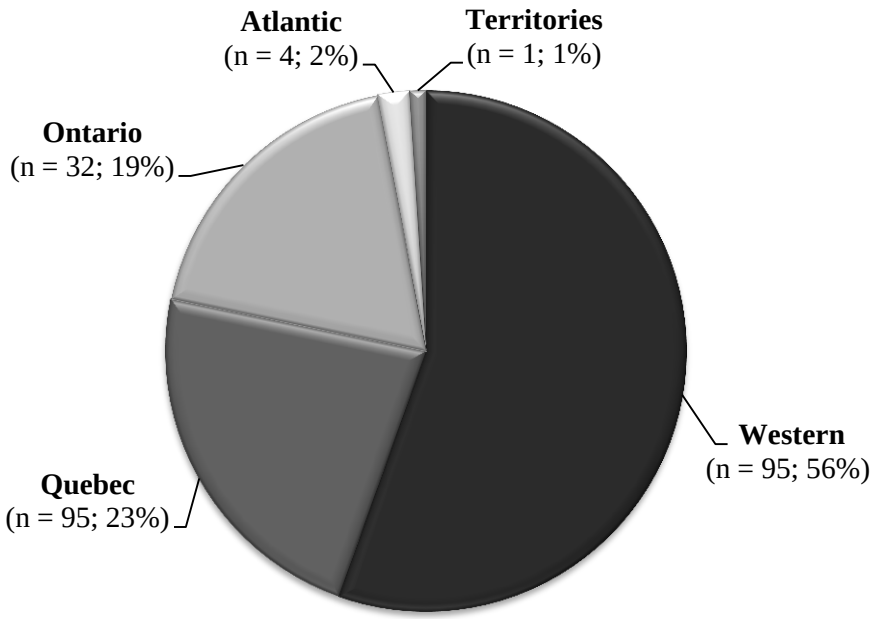
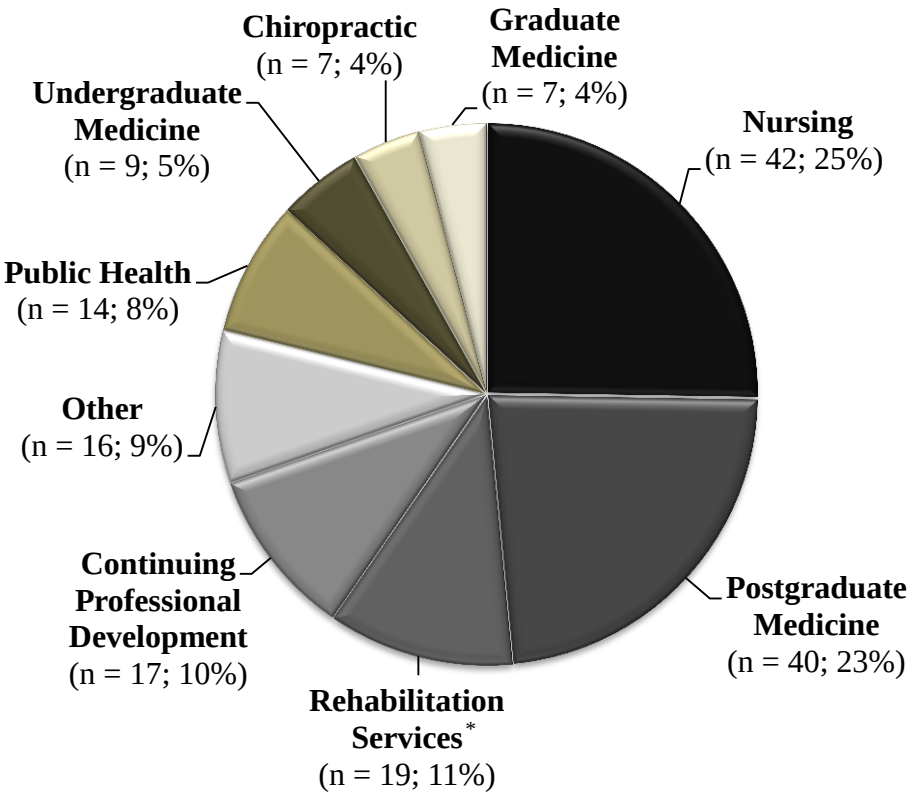


Figure 9 summarizes the program distribution of the educational offerings reported in the survey. Nursing programs reported the largest proportion (23%, n = 35) of educational offerings with OHS content, followed by postgraduate medicine (19%, n = 29), rehabilitation services (13%; n = 19), and CPD (11%, n = 17).

Figure 10 summarizes the educational level of OHS educational offerings in health professional education programs reported by survey respondents. Of the 136 responses received for this survey item, the largest proportion of educational offerings were identified at the undergraduate education level (n = 50, 37%), followed by the graduate education level (n = 46, 34%), post-graduate education level (n = 30, 22%), and Continuing Professional Development (n = 10, 7%).

Figure 9 **Distribution of OHS Educational Offerings by Health Professional Education Program**



* Rehabilitation services includes physiotherapy and occupational therapy programs

Figure 10 **Education Level of OHS Educational Offerings in Health Education Programs**

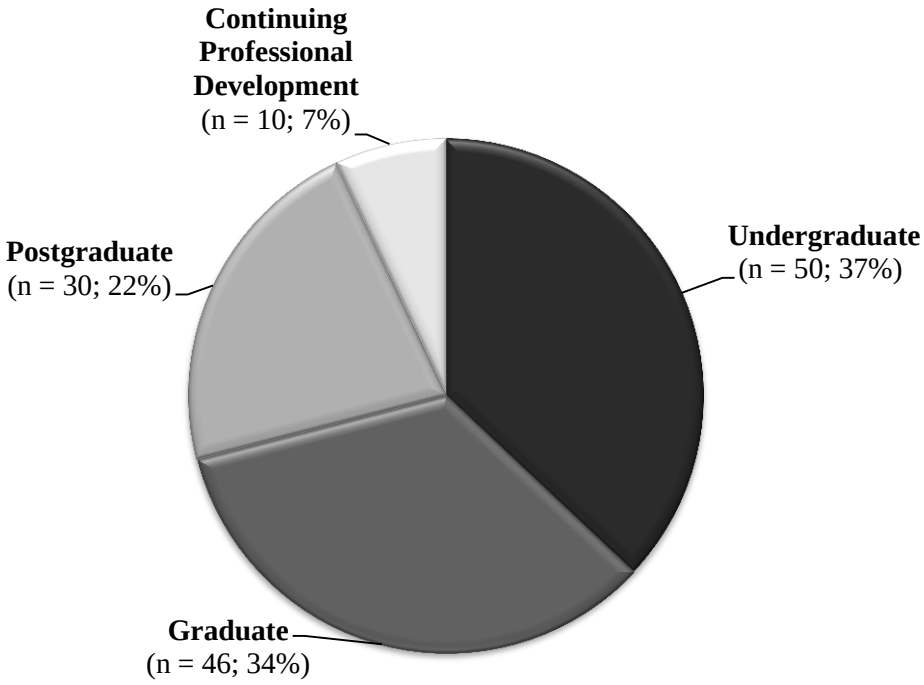


Figure 11 presents the place of OHS content in specific educational offerings. Sixty-five of 136 reported educational offerings (48%) provided OHS content as a component, or subject, within a course. Full courses in OHS within health professional education programs represented 21% (n = 28), while clinical placements or clerkships represented 16% (n = 22), and other approaches represented 15% (n = 21) of specific offerings.

Figure 11 Placement of OHS Content in OHS Educational Offerings

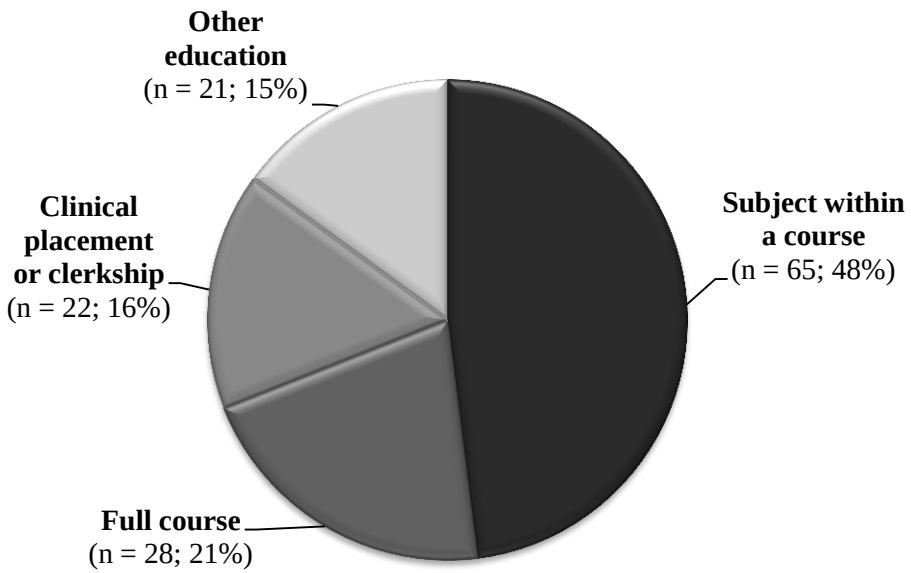
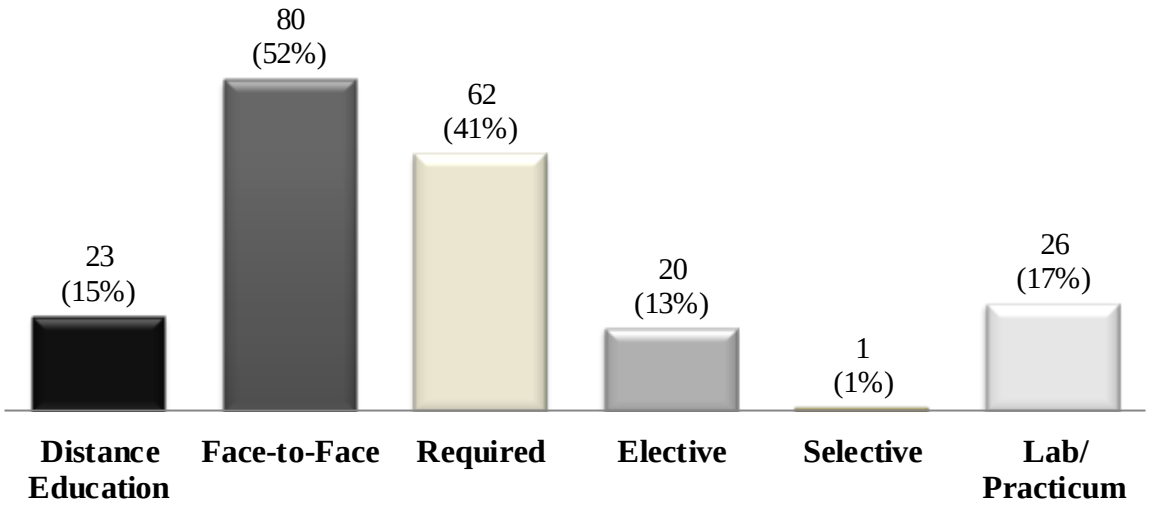


Figure 12 summarizes the pattern of delivery methods and specific OHS content details from 153 educational offerings in OHS in health professional education programs. Of the responses received, 52% of courses were delivered face-to-face, 17% were offered in a lab or practicum setting, 15% were offered by distance, and 41% of the courses were noted as required.

Figure 12 Delivery Methods and Specifics of OHS Educational Offerings



CONCLUSIONS

Certificate and diploma programs combined represented the majority (n = 69, 80%) of formal OHS education/training offered across Canadian universities and colleges. University programs at baccalaureate and graduate degree levels represented only a minority of the programs (n = 15, 18%) identified by the environmental scan and, of these, only a small number were available on a part-time basis or in a distance learning format. There did not appear to be any noticeable discrepancies in the overall proportion of programs offered across different regions of Canada based on their relative populations.

The majority of certificate level programs (n = 34, 69%) were offered at the college level. Of these, a large proportion is offered to accommodate adult learners studying by distance or on a part-time basis. Colleges also offer a higher proportion of courses in the *OHS Overview* and *Biological/Chemical/Physical OHS* categories. Universities offer a larger proportion of courses in *OHS Management/Injury & Risk Assessment* and *Occupational Emergency/Biomechanics*.

Within health professional education, the overall proportion of programs reporting that they offered at least some OHS instruction was quite low. Nursing programs reported the largest

proportion of OHS instruction, followed by postgraduate medical education programs. Of the reported OHS instruction offered by health professional education programs, the highest proportion was at the undergraduate education level (n = 50, 37%), however of the instruction offered, almost half were only offered as a portion, or subject within a course (n = 65, 48%). Less than one quarter (n = 28, 21%) of all reported OHS instruction in health professional education programs were full courses and only 41% of these were required courses.

The key limitations to the interpretation of the survey findings include a low response rate and potential sampling bias. It is possible that the survey respondents represent a self-selected sample of health professional education institutions and programs currently offering OHS education/training. These institutions and programs may have been more likely to respond and be overrepresented in the respondent sample given the current availability of OHS education/training. Institutions not currently offering OHS education/training within specific health professional education program areas may have been less likely to respond to the online survey.

POLICY IMPLICATIONS

The findings of this study provide an initial evidence base for examining the extent and level of OHS education/training across colleges and universities in Canada. OHS education/training is recognized as a necessary prerequisite to ensuring workers across various occupations and professions are prepared to recognize, manage and prevent occupational accidents and hazards in the workplace. An analysis of peer-reviewed and grey literature undertaken for this study did not uncover any studies that reported on the scope and characteristics of OHS education/training across Canadian universities and colleges. The results of the environmental scan and the online survey of OHS education/training conducted for this

study present a detailed guide on the features of university and college OHS education/training programs. An understanding of program characteristics provides an informed basis and rationale for identifying potential gaps in both curriculum content and delivery formats of existing OHS education/training. This information would be useful to educational leaders in universities and colleges in Canada, leaders in health care administration and governmental policy makers.

The majority of formal, post-secondary OHS education/training in this country is offered at certificate and diploma program levels. These programs tend to target adult learners upgrading knowledge and skills for employment as OHS professionals. These individuals mainly have responsibility for coordinating, supervising and managing workplace OHS prevention and management programs. Only a minority of formal, post-secondary OHS education/training is offered at a university level. Minimal OHS education/training is provided in the undergraduate or graduate degree level programs of professionals training for the fields of engineering or business. The situation in the programs training this country's health professionals is not much better. Minimal OHS education/training is provided across pre-licensure and undergraduate health professional education programs, particularly in medicine and nursing. Where instruction is offered, OHS education is often non-mandatory and is given minimal coverage.

The vast majority of OHS education/training programs in Canada are below the baccalaureate or advanced graduate degree level. Many engineering graduates and business managers may be entering the Canadian workforce with minimal or little awareness of fundamental concepts of OHS. This has implications for business and industry as extensive resources are likely committed at a workplace training level to educate/train new university graduates at a minimal competence level in OHS issues. Based on these findings, OHS education within and across university programs in business, engineering and health professions

education needs greater development and enhancement. Further resources need to be allocated to develop university level OHS educational programs and course offerings to increase the education/training that future university graduates in these sectors should be receiving to ensure a minimal level of competence in OHS issues.

The findings of the study highlight existing gaps in OHS education/training across business, engineering and health professional education programs across Canadian university programs. Future research should build on the preliminary results of this study by examining the human resources development (HRD) needs of various industrial, business and health services sectors in Canada and the gaps that might exist in existing university and college OHS education/training programs. A systematic needs assessment study should explore in greater detail the competency requirements of employers across these various sectors, existing gaps in curriculum content of post-secondary OHS education/training programs and the need for advanced university-level OHS education/training.

KNOWLEDGE TRANSLATION & EXCHANGE

A copy of this report will be made available on the website of SafetyNet, Memorial University of Newfoundland. E-mail notifications of the key findings of the study and the availability of the final report will be sent to key stakeholders in the OHS field via key contact lists maintained by the project partners. The findings from the scan of educational offerings and the online survey will also be submitted for publication in a Canadian-based peer-reviewed journal and for presentation at professional meetings and conferences in the field of OHS. Some possible meetings and conferences to which the project partners may submit the study findings for presentation include: the biannual meeting of the Canadian Association for Research on Work and Health; annual meeting of the Canadian Conference on Medical Education; American

Industrial Hygiene Conference & Exposition (AIHCE); Canadian Association for Research on Work and Health (CARWH) conference; and/or the International Occupational Health and Safety (IOSH) conference.

As an output of this study and invaluable resource tool, a searchable database of all OHS educational programs identified from the scan has been developed by Memorial University's Health Science Information and Media Service (HSIMS). This database will be hosted on the SafetyNet website and maintained by SafetyNet staff in order to ensure the most up to date information is available for students and professionals interested in learning more about occupational health and safety courses and programs across Canada (Appendix G).

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APPENDICES

Appendix A Invitation to Stakeholder Webinar

INVITATION

Stakeholder Webinar
May 31, 2012
2:00 – 3:30 p.m. (EST)

Educational Offerings in Occupational Health and Safety

You are cordially invited to participate in a stakeholder-focussed webinar event in which we will be seeking your ideas and those of your organization concerning what is currently available and what is needed in educational programming in Occupational Health and Safety (OHS) at Canadian universities and colleges.

This research project is undertaking a comprehensive scan of formal educational programming and curriculum in Occupational Health and Safety/Occupational Hygiene/Occupational Medicine offered across Canada at universities, colleges and polytechnical institutes. You have been identified as a key stakeholder and your input is essential for setting the focus of our study.

R.S.V.P. to ssilver@mun.ca or 709 777 6912. Please include your email address in your R.S.V.P. and webinar information will be forwarded to you.

MEMORIAL UNIVERSITY
Faculty of Medicine

Occupational Cancer Research Centre
Towards a cancer-free workplace

Centre for Collaborative Health Professional Education

SafetyNet
Centre for Occupational Health & Safety Research

a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

This initiative has been funded by WorkSafe BC.

Appendix B List of Organizational and Agency Contacts for Stakeholder Webinar

National (22)

Association of Workers' Compensation Boards of Canada
Can. Society of Safety Engineering
Canadian Employers Council
Canadian Federation of Construction Safety Associations
Canadian Labour Congress
Canadian Medical Association
Canadian Nurses Association
Canadian Nurses Protective Society
Canadian Occupational Health Nurses Association
Canadian Plastics Industry Association
Canadian Registration Board of Occupational Hygenists
Canadian Standards Association
CanOSH
Canadian Association of Petroleum Producers.
Farm Safety Association
Health Canada
Human Resources and Skills Development Canada
Industrial Accident Prevention Association
Infrastructure Health & Safety Association
Operating Room Nurses Association of Canada
Patients for Patient Safety Canada
Transportation Safety Board of Canada

Provincial (48)

BC Government and Service Employees' Union
BC Association of Professional Engineers and Geoscientists
BC Construction Safety Association
BC Federation of Labour
BC Office of the Employer Advisor
BC Provincial Government - OHS Department
Canada-NL Offshore Petroleum Board
Canada-NS Offshore Petroleum Board
Construction Safety Association of Manitoba
Energy Services BC
Engineers Nova Scotia
Infrastructure Health & Safety Association
Manitoba Association of Professional Engineers and Geoscientists
Manitoba Federation of Labour
Manitoba Government and General Employees' Union
Manitoba Heavy Construction Association
Manitoba Labour Board

Manitoba Provincial Government - OHS Department
Manitoba Surface Rights
Newfoundland Association of Public Employees
NL Construction Safety Association
NL Employers Council
NL Federation of Labour
NL Occupational Health & Safety Association
NL Provincial Government - OHS Department
NL Workplace Health, Safety and Compensation Commission
Nova Scotia Office of the Employer Advisor
NS Association of Public Employees
NS Construction Safety Association
NS Federation of Labour
NS Provincial Government - OHS Department
Occupational Health Clinics for Ontario Workers
Ontario Federation of Labour
Ontario Mine Rescue
Ontario Office of the Employer Advisor
Ontario Petroleum Institute
Ontario Provincial Government - OHS Department
Ontario Public Service Employees Union
Professional Engineers and Geoscientists of NL
Professional Engineers of Ontario
Public Services Health and Safety Association
SAFE Manitoba
Safety Services Newfoundland and Labrador
Workers' Compensation Board of Manitoba
Workers' Compensation Board of NS
Workers Safety Insurance Board of Ontario
Workplace Safety & Prevention Services of Ontario
Worksafe BC

Appendix C Thematic Analysis

Summary of Thematic Analysis of Course Categories in Selected Canadian OHS Course Offerings

Category	Description / Possible delivered content
General OHS Generalized overview of OHS practices and issues pertaining to the workplace.	- Recognition, assessment and control/prevention of occupational hazards, physical agents, chemical agents, and socio-psychological aspects in the workplace environment - Risk assessment including probability of failure or hazard - Ethical, technical and strategic perspectives - Covers federal and provincial OHS legislation, responsibilities of Joint Health and Safety Committees, Workplace Safety and Insurance Board - Assessment of safety systems/equipment - Instruction on hygiene, WHMIS, MSDS, CPR, and first aid - Introduces students to the scientific basis of occupational health, specifically the relevant principles and concepts of injury prevention, disability management, ergonomics, toxicology and confined space entry - Discussion concerning risk, acceptable risk, liability, risk management, and fault free analysis
OHS Management, Risk Assessment / Prevention Managing OHS from an employer, supervisor, or manager perspective	- The leadership role that HR professionals take on the issues of workplace health, safety, and workers compensation - Reviews current legislation and provide understanding of the ethical, legislative, technical and management aspects of health and safety practice in human resources - Management practice regarding hazard management, accident investigation, emergency preparedness, managing physical &

	psychological toxic elements in the workplace - Develop the knowledge and skills to design, manage and evaluate programs in the areas of health, safety, security, diversity management and accommodation of disabled workers - Occupational health, wellness and safety concerns that may impact an organization's productivity and profitability - Identify strategic organizational practices for occupational health and safety consistent with the organization's strategy - Improve occupational health and safety practices through the assessment of education and communication needs and the provision of appropriate programs
Occupational Ergonomics & Biomechanics Ergonomic and biomechanical principles that may affect or prevent OHS issues or injuries	- Worksite investigation, evaluation, and assessment techniques - Basic principles relating to anatomy, biomechanics, physiology, manual material handling, cumulative trauma disorders - Workplace musculoskeletal disorders - Evaluating an injured worker's abilities using work related functional activities. - Measuring how different environmental constraints (noise, lighting, thermal, chemicals, vibrations, etc.) affect employees
Biological / Chemical / Physical OHS Understanding and application of OHS chemical and physical hazards	- Anticipation, recognition, evaluation and control of chemical, physical and biological hazards arising in, or from, the workplace. - Basic concepts of environmental management as it relates to the workplace environment such as air, water and soil pollution, and hazardous waste management - Site inspections and program auditing to assist in the recognition and analysis of potential environmental risks - Impact of environmental legislation on the workplace regarding safe transport, handling and disposal of contaminants

	- Examine chemical toxins and their effects on the human body; explore the role of toxicology in helping to prevent illness and injury - Methods of evaluation of common industrial toxic agents - Toxicological mechanisms behind diseases arising from workplace exposures - Industry Specific: OHS issues and general safety from the perspective of various industries: Construction, electrical, farming, mining, radiation technology, etc.
OHS Legislation / Law Understanding and application of OHS legislation and how it can affect employees and employers	- Provincial and federal health and safety legislation - Application and implication of health and safety legislation in the workplace. - Ensure the efficient and fair operation of the workplace - Legal issues that arise with respect to employee recruitment and selection, compensation, scheduling, training, performance evaluation and termination. - Impact of present day legislation on employees, employers, financial loss, loss prevention and enforcement - Privacy issues in the workplace, human rights, the unionized workplace, legal risk management programs for the workplace, employment equity, and particular terms and conditions in employment contracts - WSIB Act, Designated Substance Regulations, Canada Labour Code, Occupational Health and Safety Act and environmental legislation.

Fire Protection Managing OHS issues pertaining to fire and fire safety	- Knowledge of fire protection, including the prevention, detection and suppression of fire. - Compliance with federal, provincial and municipal regulations relating to fire protection. - The chemistry and physics of fire - Fire protection in building design and construction - Fire inspections - Fire department operations, fire drills, fire safety plans, evacuation procedures, fire emergency organizations - Other information related to life safety and property protection from fire
Occupational Health Nursing Applying OHS knowledge, skills, and attitudes to nursing specific practices for improved safety for medical staff and patients.	- Health promotion including: history taking, physical, mental and psychosocial status assessment. Relevant diagnostic testing is stressed. - Physical examination of the ear, eye, respiratory, musculoskeletal and nervous systems are practiced - Responsibility of RN's in emergency care of severe injuries - Disaster preparedness - Interviewing and counselling techniques - Crisis and crisis intervention - Gaining experience in practical settings such as: vision screening and spirometry, attending blood donor clinics, community substance abuse programs, stress seminars, and any seminars/workshops with primary prevention focus for health promotion. - Government legislation which influences occupational health programs

	- Interprofessional team roles and assessment of the workers in their environments - Rehabilitation programs, job evaluation, worker assessment, and vocational rehabilitation - Injury prevention and education, worker accommodation, absenteeism control, and employee assistance programs
Mental / Psycho-social OHS Identifying and managing risks in the workplace that may affect individual's mental health and overall well-being.	- Identify risk factors that create and perpetuate hostile environments - Identify strategies for mitigating or reducing the risks of negative encounters within the organization - Workplace harassment and violence - Healthy lifestyle in and out of the workplace - Explore behaviours and decisions impacting occupational health and safety on the worksite

Appendix D Educational Offerings in OHS Survey

Educational Offerings in Occupational Health and Safety (OHS)

At the present time there is no comprehensive information on the nature or characteristics of Occupational Health and Safety (OHS) education across Canadian health professional education programs (Medicine, Nursing, Occupational Therapy, Physiotherapy). There are also no comprehensive guides on OHS-related curriculum and the literature reveals minimal studies of Canadian OHS education efforts. However, many health professional trainees and graduates will be expected to care for patients or clients who have been injured in the workplace, and still many others may choose to work in the field of Occupational Health and Safety (OHS).

The purpose of this study is to survey programs of health professional education in Canada to explore the nature and characteristics of OHS teaching that occurs across curricula. The findings from the study will provide a comprehensive summary of OHS curricula across programs of health professional education. Your participation in the survey will contribute to the preparation of this comprehensive summary and the findings will be very important to your colleagues and peers interested in enhancing and developing health professional education curriculum in this subject area. The findings may also identify common areas for furthering the development of special initiatives such as interprofessional education across health professional education programs.

A final study report including the survey findings will be posted on the SafetyNet website, Memorial University http://www.safetynet.mun.ca/ and will be disseminated to partnering organizations such as the Association of Faculties of Medicine (AFMC), Canadian Association of Schools of Nursing (CASN), Canadian Association of Occupational Therapist (CAOT) and the Canadian Physiotherapist Association (CPA) for distribution to their members. Confidentiality is assured and survey findings will only be summarized in an aggregate manner. No identifying, institutional information will be included. Results will be used in summary form only to protect confidentiality. The identifying information collected on the survey will be used only to keep track of the surveys as they are returned. In this way, follow-up reminders won't be sent to those who respond soon.

If you have any questions about the survey or the study, please contact:

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Director of Academic Research and Development
Professor of Medical Education
Room # 2901
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St. John's, NL
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Your completion of this brief survey is appreciated.

Study partners include:

Definitions

Occupational health and safety (OHS)
(1) The maintenance and promotion of workers' health and working capacity; (2) The improvement of working environment and work to become conducive to safety and health; (3) Development of work organizations and working cultures in a direction which supports health and safety at work and in doing so also promotes a positive social climate and smooth operation and may enhance productivity of the undertakings.[4]

Occupational Hygiene
The discipline of anticipating, recognizing, evaluating and controlling health hazards in the working environment with the objective of protecting health and well-being and safeguarding the community at large.[5]

Occupational Medicine
A medical discipline that emphasizes prevention and deals clinically and administratively with the health needs of both individuals and groups with respect to their working environments and includes the recognition, evaluation, control, management and rehabilitation of occupationally related diseases and injuries.[6]

Occupational Health Nursing
Occupational health nursingis that specialty area of nursing practice which focuses on the worker/worker group by: promoting health, preventing illness/injury, protecting workers from risks associated with exposure to occupational health hazards, recommending placement of workers in jobs suited to their physiological and psychological health status, and restoring workers' health in a safe and healthy work environment.[7]

Ergonomics
Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.[8]

Occupational Science
Occupational science is the study of human occupations. It is a basic science dedicated to the understanding of human occupation, using both qualitative and quantitative methods of inquiry.[9]

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[4] Joint International Labour Organization (ILO)/World health Organization (WHO) Committee on Occupational Health (1995)

[5] International Occupational Hygiene Association (2012) http://www.ioha.net/

[6] Royal College of Physicians and Surgeons of Canada (2006)

[7] Canadian Occupational Health Nursing Association (2012) http://www.cohna-aciist.ca/pages/content.asp?CatID=3&CatSubID=5

[8] International Ergonomics Association (2012) http://www.iea.cc/

[9] Canadian Society of Occupational Scientists (CAOS) http://www.csoscanada.com/index.html

University Name: _____

Faculty/School/Department: _____

Location: _____

Please describe the characteristics of any teaching in the subject area of Occupational Health and Safety/Occupational Hygiene/Occupational Medicine/Occupational Health Nursing/Ergonomics in academic programs offered through your faculty/school.

Medicine/Nursing/Chiropractic Only

Teaching at the Undergraduate level?

O Yes O No

If Yes:

Program (e.g., BN, MD, etc): _____

Check all that apply:

O Full Course

Course Title: _____

# of instructional hours _____

Class Size (e.g., # of students) _____

(check those that apply)

_____Distance _____Face-to-Face

_____Required _____Elective

_____Lab/Practicum

Topics covered (please list):

O Subject within a course

Course Title: _____

# of instructional hours _____

(check those that apply)

_____Distance _____Face-to-Face

_____Required _____Elective

_____Lab/Practicum

Topics covered (please list):

O Clinical placement/Clerkship Rotation

Placement/Rotation Title: _____

(check one)

_____Core/Required

_____Elective

_____Selective

Topics covered (please list):

O Other education at undergraduate level

Please describe:

Topics covered (please list):

Medicine/Nursing/Chiropractic Only

Teaching at the Graduate level?

O Yes O No

If Yes:

O Masters	O PhD
Program (e.g., MSc, MN, etc): _____	Program (e.g., PhD): _____
Check all that apply:	Check all that apply:
O Full Course	O Full Course
Course Title: _____	Course Title: _____
# of instructional hours _____	# of instructional hours _____
Class Size (e.g., # of students) _____	Class Size (e.g., # of students) _____
(check those that apply)	(check those that apply)
_____Distance _____Face-to-Face	_____Distance _____Face-to-Face
_____Required _____Elective	_____Required _____Elective
_____Lab/Practicum	_____Lab/Practicum
Topics covered (please list):	Topics covered (please list):

O Subject within a course Course Title: _____ # of instructional hours _____ (check those that apply) _____Distance _____Face-to-Face _____Required _____Elective _____Lab/Practicum Topics covered (please list): O Clinical Placement Placement/Rotation Title: _____ (check one) _____Core/Required _____Elective _____Selective Topics covered (please list):	O Subject within a course Course Title: _____ # of instructional hours _____ (check those that apply) _____Distance _____Face-to-Face _____Required _____Elective _____Lab/Practicum Topics covered (please list): O Clinical Placement Placement/Rotation Title: _____ (check one) _____Core/Required _____Elective _____Selective Topics covered (please list):

O Other education at the graduate level Please describe: Topics covered (please list):	O Other education at the graduate level Please describe: Topics covered (please list):

Physiotherapy/Occupational Therapy Only

Teaching at the Graduate level?

O Yes O No

If Yes:

O Entry Level Masters	O Post Professional Masters	O PhD
Program (e.g., MSc, MN, etc): _____	Program (e.g., MSc, MN, etc): _____	Program (e.g., PhD): _____
Check all that apply:	Check all that apply:	Check all that apply:
O Full Course	O Full Course	O Full Course
Course Title: _____	Course Title: _____	Course Title: _____
# of instructional hours ____	# of instructional hours ____	# of instructional hours ____
Class Size (e.g., # of students) ____	Class Size (e.g., # of students) ____	Class Size (e.g., # of students) _____
(check those that apply)	(check those that apply)	(check those that apply)
_____Distance _____Face-to-Face _____Required _____Elective _____Lab/Practicum	_____Distance _____Face-to-Face _____Required _____Elective _____Lab/Practicum	_____Distance _____Face-to-Face _____Required _____Elective _____Lab/Practicum
Topics covered (please list):	Topics covered (please list):	Topics covered (please list):

O Subject within a course Course Title: _____ # of instructional hours ____ (check those that apply) _____Distance _____Face-to-Face _____Required _____Elective _____Lab/Practicum Topics covered (please list):	O Subject within a course Course Title: _____ # of instructional hours ____ (check those that apply) _____Distance _____Face-to-Face _____Required _____Elective _____Lab/Practicum Topics covered (please list):	O Subject within a course Course Title: _____ # of instructional hours ____ (check those that apply) _____Distance _____Face-to-Face _____Required _____Elective _____Lab/Practicum Topics covered (please list):
OClinical Placement Placement/Rotation Title: ___ _____ (check one) _____Core/Required _____Elective _____Selective	O Clinical Placement Placement/Rotation Title: ___ _____ (check one) _____Core/Required _____Elective _____Selective	O Clinical Placement Placement/Rotation Title: ___ _____ (check one) _____Core/Required _____Elective _____Selective

Topics covered (please list): O Other education at the graduate level Please describe: Topics covered (please list):	Topics covered (please list): O Other education at the graduate level Please describe: Topics covered (please list):	Topics covered (please list): O Other education at the graduate level Please describe: Topics covered (please list):

Medicine Only

Teaching at the Postgraduate Medical Education (Residency) level?

O Yes O No

If Yes:

Residency Program (e.g., Family Medicine): _____

O Rotation

Rotation title: _____

# of weeks _____

(check one)

___Core/Required

____Elective

___Selective

Please describe the site(s)/location(s) of the placement (e.g., industry, workers compensation):

Topics covered (please list):

O Other teaching at the postgraduate residency level

Please describe:

Topics covered (please list):

Medicine/Nursing/Occupational Therapy/Physiotherapy/Chiropractic

Past or Current Teaching at the Continuing Professional Education level (e.g., CME/CPD/CE)?

O Yes O No

If Yes:

Workshop/Course Name: _____

# of instructional hours _____

(check those that apply)

_____Distance

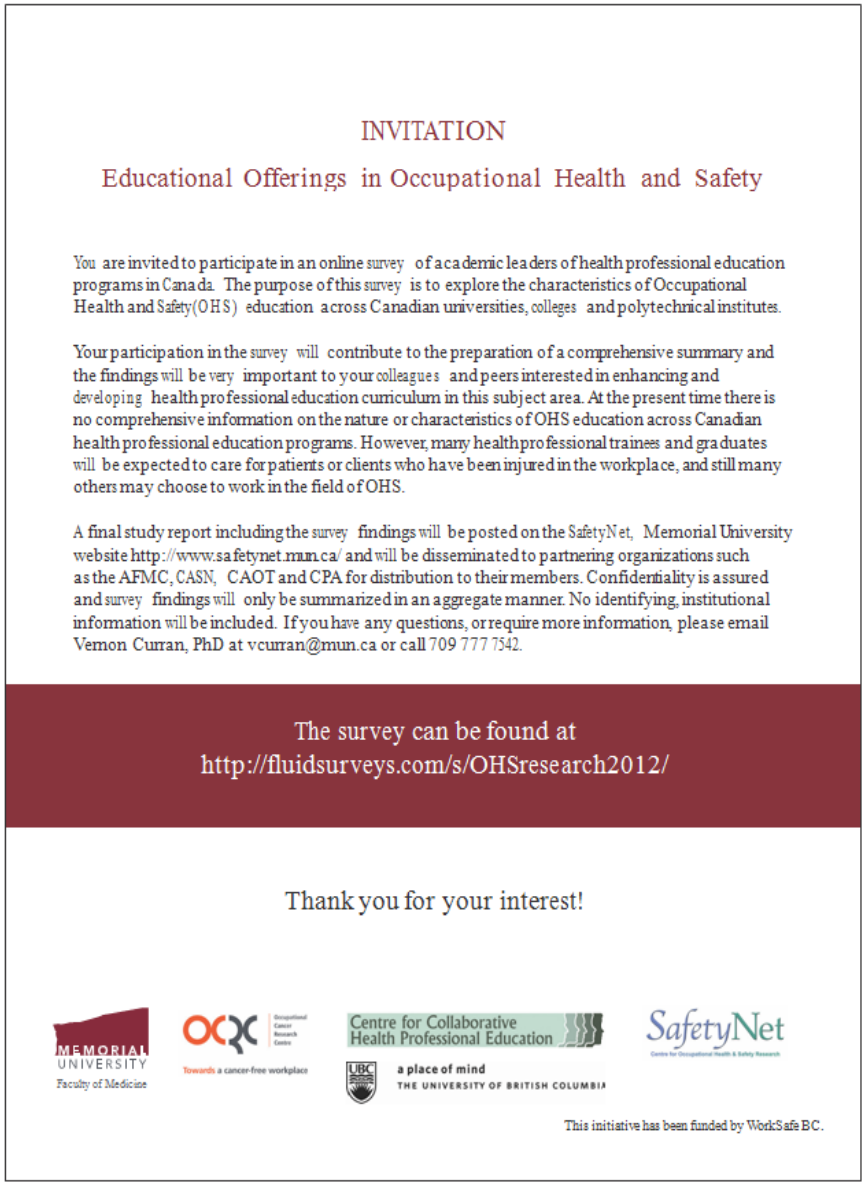
_____Face-to-Face

_____Regular offering (e.g., annual)

Topics covered (please list):

Thank you.

Appendix E Educational Offerings in OHS Survey Distributed in English and French Text



INVITATION

Educational Offerings in Occupational Health and Safety

You are invited to participate in an online survey of academic leaders of health professional education programs in Canada. The purpose of this survey is to explore the characteristics of Occupational Health and Safety (OHS) education across Canadian universities, colleges and polytechnical institutes.

Your participation in the survey will contribute to the preparation of a comprehensive summary and the findings will be very important to your colleagues and peers interested in enhancing and developing health professional education curriculum in this subject area. At the present time there is no comprehensive information on the nature or characteristics of OHS education across Canadian health professional education programs. However, many health professional trainees and graduates will be expected to care for patients or clients who have been injured in the workplace, and still many others may choose to work in the field of OHS.

A final study report including the survey findings will be posted on the SafetyNet, Memorial University website http://www.safetynet.mun.ca/ and will be disseminated to partnering organizations such as the AFMC, CASN, CAOT and CPA for distribution to their members. Confidentiality is assured and survey findings will only be summarized in an aggregate manner. No identifying, institutional information will be included. If you have any questions, or require more information, please email Vernon Curran, PhD at vcurran@mun.ca or call 709 777 7542.

The survey can be found at
http://fluidsurveys.com/s/OHSresearch2012/

Thank you for your interest!

MEMORIAL UNIVERSITY Faculty of Medicine

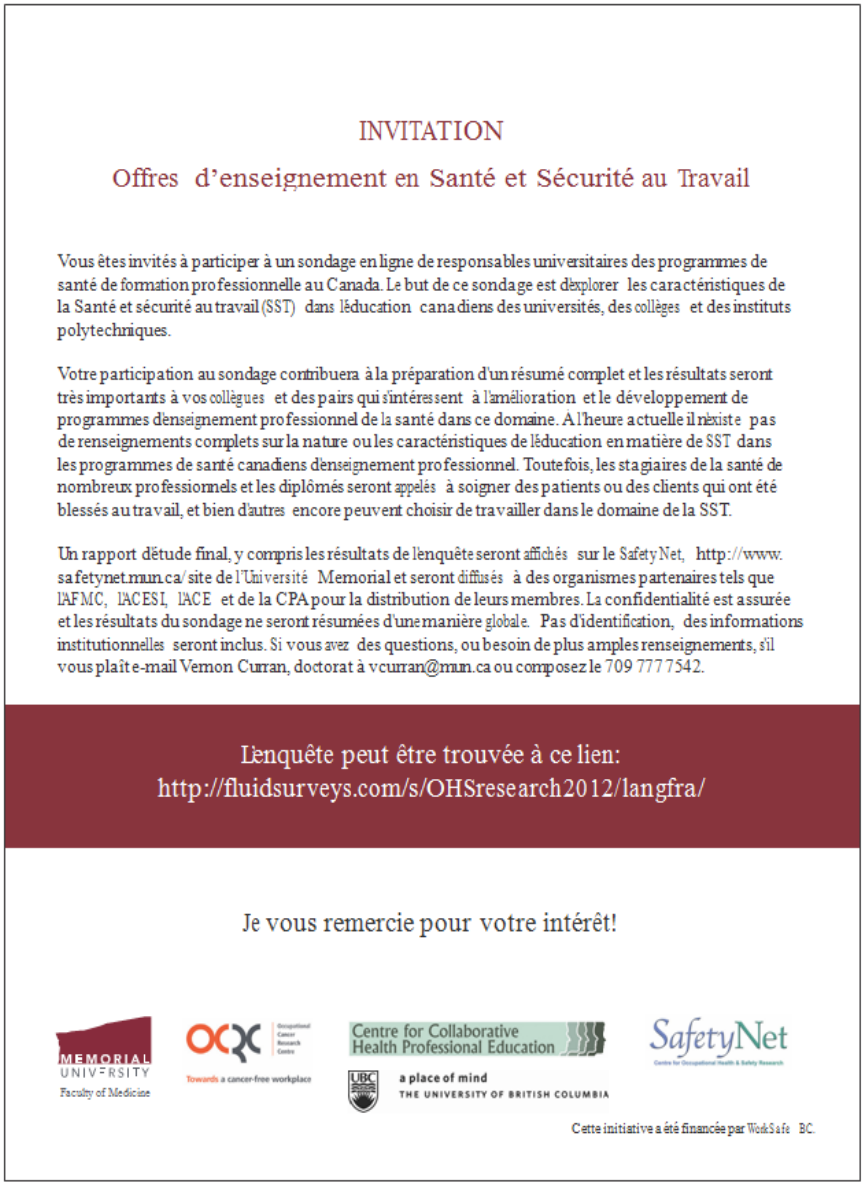
Towards a cancer-free workplace

Centre for Collaborative Health Professional Education

a place of mind THE UNIVERSITY OF BRITISH COLUMBIA

SafetyNet

This initiative has been funded by WorkSafe BC.



INVITATION

Offres d'enseignement en Santé et Sécurité au Travail

Vous êtes invités à participer à un sondage en ligne de responsables universitaires des programmes de santé de formation professionnelle au Canada. Le but de ce sondage est dèxplorer les caractéristiques de la Santé et sécurité au travail (SST) dans lèducation canadiens des universités, des collèges et des instituts polytechniques.

Votre participation au sondage contribuera à la préparation d'un résumé complet et les résultats seront très importants à vos collègues et des pairs qui s'intéressent à l'amélioration et le développement de programmes dènseignement professionnel de la santé dans ce domaine. À l'heure actuelle il nèxiste pas de renseignements complets sur la nature ou les caractéristiques de lèducation en matière de SST dans les programmes de santé canadiens dènseignement professionnel. Toutefois, les stagiaires de la santé de nombreux professionnels et les diplômés seront appelés à soigner des patients ou des clients qui ont été blessés au travail, et bien d'autres encore peuvent choisir de travailler dans le domaine de la SST.

Un rapport dètude final, y compris les résultats de lènquête seront affichés sur le SafetyNet, http://www.safetynet.mun.ca/ site de l'Université Memorial et seront diffusés à des organismes partenaires tels que l'AFMC, l'ACESI, l'ACE et de la CPA pour la distribution de leurs membres. La confidentialité est assurée et les résultats du sondage ne seront résumées d'une manière globale. Pas d'identification, des informations institutionnelles seront inclus. Si vous avez des questions, ou besoin de plus amples renseignements, s'il vous plaît e-mail Vernon Curran, doctorat à vcurran@mun.ca ou composez le 709 777 7542.

Lènquête peut être trouvée à ce lien:
http://fluidsurveys.com/s/OHSresearch2012/langfra/

Je vous remercie pour votre intérêt!

MEMORIAL UNIVERSITY Faculty of Medicine

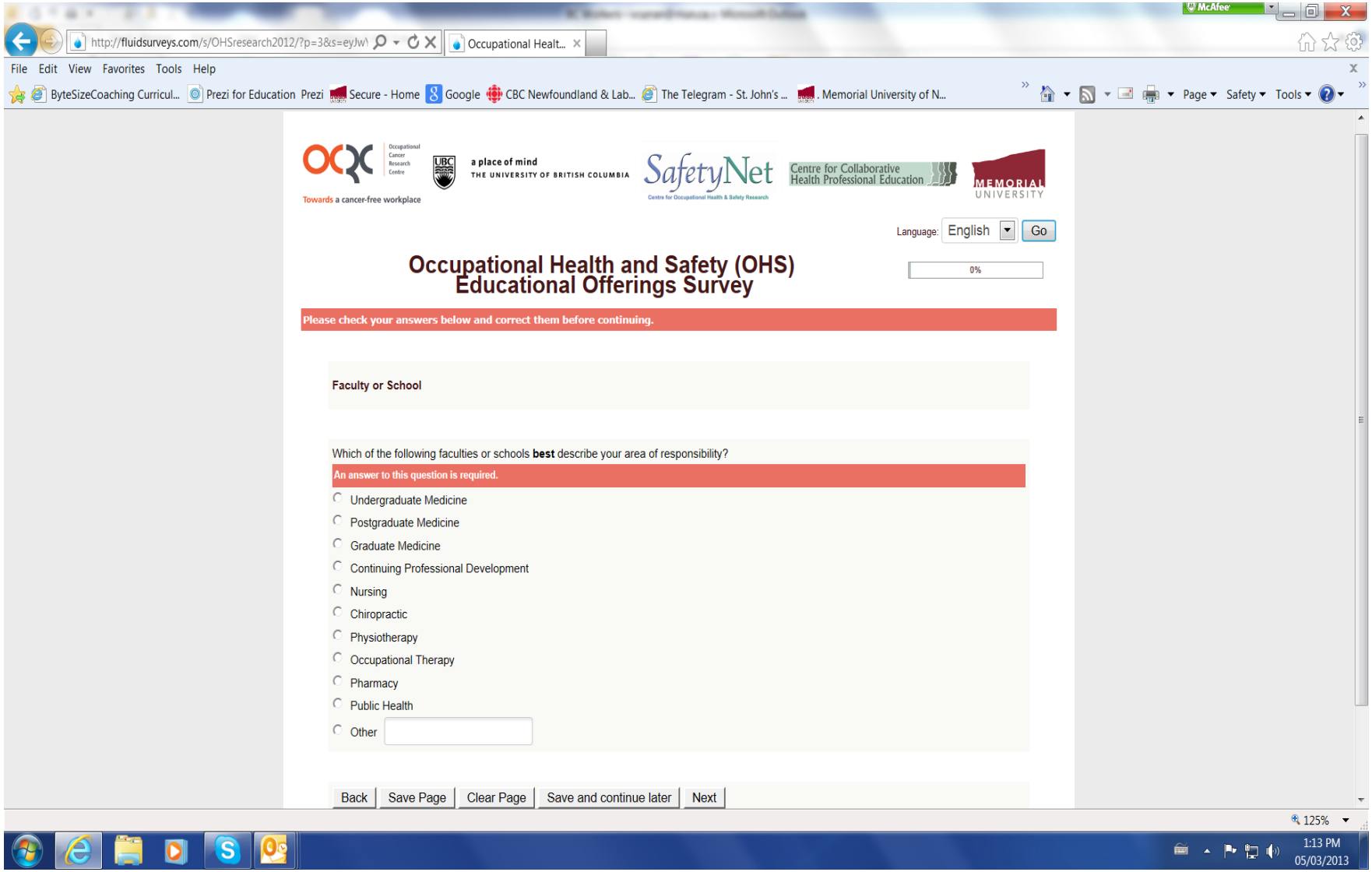
Towards a cancer-free workplace

Centre for Collaborative Health Professional Education

a place of mind THE UNIVERSITY OF BRITISH COLUMBIA

SafetyNet

Cette initiative a été financée par WorkSafe BC.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Occupational Healt...
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Page
Safety
Tools
Towards a cancer-free workplace
a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA
SafetyNet
Centre for Occupational Health & Safety Research
Centre for Collaborative Health Professional Education
MEMORIAL UNIVERSITY
Language: English
Go
Occupational Health and Safety (OHS) Educational Offerings Survey
0%
Please check your answers below and correct them before continuing.
Faculty or School
Which of the following faculties or schools best describe your area of responsibility?
An answer to this question is required.
Undergraduate Medicine
Postgraduate Medicine
Graduate Medicine
Continuing Professional Development
Nursing
Chiropractic
Physiotherapy
Occupational Therapy
Pharmacy
Public Health
Other
Back
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Appendix F List of Formal OHS-Specific Programs (Alphabetically)

Institution Name	Program Name	Educational Designation
Academy Canada	Occupational Health and Safety	Diploma
Algonquin College	Occupational Health and Safety	Certificate
British Columbia Institute of Technology	Occupational Health and Safety	Certificate
British Columbia Institute of Technology	Occupational Health Nursing	Certificate
British Columbia Institute of Technology	Occupational Health and Safety	Diploma
Cambrian College	Occupational Health and Safety	Certificate
Cambrian College	Occupational Health Nursing	Certificate
Cape Breton University	Bachelor of Health Sciences (Public Health)	Bachelors
Cégep de Jonquière	Environment, Health and Safety (DESS)	Diploma
Cégep de Saint-Laurent	Environment, Health and Safety (DESS)	Diploma
Cégep de Sorel-Tracy	Environment, Health and Safety (DESS)	Diploma
College of the North Atlantic	Occupational Health and Safety	Certificate
College of the North Atlantic	Safety Engineering Technology (Post Diploma)	Diploma
Conestoga College	Occupational Health and Safety	Certificate
Dalhousie University	Occupational Health & Safety Management	Certificate
Dalhousie University	Ergonomic Program Management	Certificate
Durham College	Occupational Health Nursing	Certificate
Durham College	Health and Safety for the Workplace	Certificate
Fanshawe College	Occupational Health and Safety	Certificate
Fanshawe College	Occupational Health Nursing	Certificate
Georgian College	Occupational Health & Safety Management	Certificate
Grand Prairie Regional College	Occupational Health and Safety	Certificate
Grant McEwan University	Occupational Health Nursing	Certificate
Great Plains College	Health, Safety & Environmental Processes	Certificate
Great Plains College	Safety, Health & Environmental Management	Diploma
Humber College	Occupational Health and Safety	Certificate
Keyano College	Occupational Health and Safety	Certificate
Keyin College	Occupational Health and Safety	Diploma
Lambton College	Occupational Health and Safety	Certificate
Université Laval	Prevention and Management of Health and Safety at Work	Diploma
McGill University	Occupational Health (MSc)	Masters

McGill University	Occupational Health (PhD)	PhD
McMaster University	Occupational Health and Safety (not offered in Fall 2013)	Diploma
Medicine Hat College	Occupational Health and Safety	Certificate
Memorial University	Occupational Health and Safety	Diploma
Mohawk College	Occupational Health & Safety Management	Certificate
Mohawk College	Labour Studies in Occupational Health and Safety	Certificate
Mohawk College	Occupational Health Nursing	Certificate
Mount Royal University	Occupational Health and Safety	Certificate
Niagara College	Occupational Health and Safety	Certificate
Northern Alberta Institution of Alberta	Occupational Health and Safety	Certificate
Northern Alberta Institution of Alberta	Occupational Health and Safety for Leaders	Diploma
Nova Scotia Community College	Occupational Health and Safety	Certificate
Polytechnique Montréal	Ergonomics (DESS)	Diploma
Red Deer College	Occupational Health and Safety	Certificate
Red River College	Occupational Health and Safety	Certificate
Ryerson University	BASc - Occupational and Public Health	Bachelors
Ryerson University	Occupational Health and Safety	Certificate
Ryerson University	Advanced Safety Management	Certificate
Saskatchewan Institute of Applied Science and Technology	Occupational Health and Safety Practitioner	Certificate
Saskatchewan Institute of Applied Science and Technology	Occupational Health and Safety Practitioner (Applied)	Certificate
Seneca College	Occupational Health and Safety	Certificate
St. Clair College	Occupational Health and Safety	Certificate
St. Lawrence College	Occupational Health Nursing	Certificate
Universite de Moncton	Occupational Health and Safety	Certificate
Université du Québec à Chicoutimi	Health and Safety	Certificate
Université du Québec à Montréal	Ergonomics (DESS)	Diploma
Université du Québec à Trois-Rivières	Health and Safety at Work	Certificate
Université du Québec à Trois-Rivières	Safety and Industrial Hygiene	Masters
Université du Québec en Abitibi-Témiscamingue	Health and Safety	Certificate
Université du Québec en Outaouais	Health and Safety	Certificate
University of Alberta	Occupational Health and Safety	Certificate
University of Alberta	Environmental and Occupational Health (MPH)	Masters
University of Alberta	Occupational Health (MSc)	Masters
University of Alberta	Occupational Medicine	Postgraduate Medical Residency

University of British Columbia	Occupational and Environmental Hygiene (MSc)	Masters
University of British Columbia	Occupational and Environmental Hygiene (PhD)	PhD
University of Calgary	Health, Safety and Environment	Certificate
University of Fredericton	Safety, Health and Environmental Management	Diploma
University of Montreal	Occupational Medicine	Postgraduate Medical Residency
University of Montreal	Health and Safety	Certificate
University of Montreal	Occupational Hygiene	Diploma
University of Montreal	Health and Safety (DESS)	Diploma
University of Montreal	Hygiene (DESS)	Diploma
University of Montreal	Environmental Health and Occupational Health	Masters
University of Montreal	Environmental and Occupational Health (PhD)	PhD
University of New Brunswick	Ergonomics (Minor)	Bachelors
University of New Brunswick	Occupational Health and Safety	Certificate
University of New Brunswick	Occupational Health and Safety (Advanced Diploma)	Diploma
University of Sherbrooke	Health and Safety	Certificate
University of Toronto	Occupational Health and Safety	Certificate
University of Toronto	Occupational and Environmental Health (MPH)	Masters
University of Toronto	Occupational Medicine	Postgraduate Medical Residency
University of Victoria	Environmental and Occupational Health	Certificate
University of Waterloo	Kinesiology (Ergonomics Option)	Bachelors
University of Waterloo	Work and Health (PhD)	PhD
Western University	Occupational Health & Safety Management	Diploma

Appendix G Screen Capture of OHS-Specific Program Database

Program Name	Certificate	Diploma	Bachelors	Masters	PhD	Distance	Part Time	Institutions Name	
Occupational Health and Safety	☐	☑	☐	☐	☐	☐	☐	Academy Canada	View/Edit
Occupational Health and Safety	☑	☐	☐	☐	☐	☑	☑	Algonquin College	View/Edit
Occupational Health and Safety	☑	☐	☐	☐	☐	☑	☑	British Columbia Institute of Technology	View/Edit
Occupational Health and Safety	☐	☑	☐	☐	☐	☐	☐	British Columbia Institute of Technology	View/Edit
Occupational Health Nursing	☑	☐	☐	☐	☐	☑	☑	British Columbia Institute of Technology	View/Edit
Occupational Health and Safety	☑	☐	☐	☐	☐	☑	☑	Cambrian College	View/Edit
Occupational Health Nursing	☑	☐	☐	☐	☐	☑	☑	Cambrian College	View/Edit
Bachelor of Health Sciences (Public Health) - 4 Yr	☐	☐	☑	☐	☐	☐	☑	Cape Breton University	View/Edit
Bachelor of Health Sciences (Public Health) - 2 Yr	☐	☐	☑	☐	☐	☐	☑	Cape Breton University	View/Edit
Bachelor of Health Sciences (Public Health) - 1 Yr	☐	☐	☑	☐	☐	☐	☑	Cape Breton University	View/Edit