

**Operationalizing
New Integrated
Population/Public Health
Nutrition Competencies
into Dietetic Curriculum,
Education and Practice
Final Report: 2013-2015**

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Executive Summary

This final report summarizes the development process and outcomes of the project *Operationalizing New Integrated Population and Public Health Nutrition Competencies into Dietetic Education and Practice*. The initiative was led by Dietitians of Canada with a grant from the Public Health Agency of Canada – Public Health Workforce Development Products and Tools Program. The resulting online course and support materials, focusing on conducting a community needs assessment and setting priorities, makes an important contribution to supporting dietetic students, interns and new public health practitioners to achieve entry-level competencies for dietetic practice in population and public health.

Background

The overall goal of this initiative was to develop bilingual, nationally accessible & validated web-based tools & resources that would support the attainment of entry-level dietetic competencies in population and public health nutrition.

Project Objectives

- Identify and address gaps in educational learning resources and tools
- Identify existing population and public health nutrition content, learning tools and experiential learning opportunities in undergraduate and practicum dietetic education programs across Canada that could be shared with other programs or used to develop new resources
- Consult with educators & students/interns to determine the range and types of tools that are needed to fill identified gaps and enhance population/public health nutrition education (didactic & practical)
- Develop, test and release a series of bilingual nationally accessible web-based tools & resources for use in dietetics and nutrition education programs across Canada.

Project Description

A National Advisory Committee was established to provide leadership for the project. The committee was comprised of dietetic educators at the academic and internship/practicum levels, students and public health practitioners. Three Reference Groups were also established with a similar composition to provide content expertise as well as provide feedback on the development of project resources. A curriculum design expert developed the learning materials which include:

- A case-focused, self-pacing, interactive, evidence based, bilingual online course designed to support students' and practitioners' learning about community nutrition needs assessment and setting priorities for program planning. Also included are an embedded glossary, links to additional reading and reference materials, an end of course quiz and a printable certificate of achievement.
- A downloadable PowerPoint version of the course and a Student Workbook covering the same concepts as the online version
- A Facilitator Guide for educators
- An optional feedback survey on the course content, format and learning experience.

A Project Logic Model and evaluation framework was developed that identified the project outcomes, indicators and data collection tools for the evaluation. The course was launched on the Dietitians of Canada online learning platform in September of 2014.

Findings

Feedback from all participants involved in the development of the project – National Advisory Committee and Reference Groups – indicated high satisfaction with the development process, communication strategies and learning products produced.

Since the launch, 607 DC members and 38 nonmembers have registered for the English online course. There have been two group subscriptions (UBC – 74 students and McGill University - 68 students). Sixty-five (65) users have registered for the French version of the course.

Early feedback from course registrants has also been very positive with 90% of respondents that completed the feedback survey indicating that they would recommend the course to their colleagues. These positive results suggest that the engagement of end users in the development of learning materials has been a best practice process for producing learning resources that meet the needs for students and practicing professions. The findings have implications for professional development course developers generally. They also have implications for potential future work by Dietitians of Canada in developing other resources to support competency development in other aspects of population and public health as well as additional practice areas.

Recommendations

- Continued promotion of the online course and evaluation results is needed to ensure students, educators and practitioners are aware of the course and the positive outcomes.
- Continue to monitor feedback on the course and utilize results in a variety of communication channels to share evaluation results and promote the course more broadly.
- Determine the potential for funding additional resource materials to support competencies in other areas of Population and Public Health and to keep the existing materials current.

Background

Purpose of the Project

In 2006, a Pan Canadian Task Force on Public Health Nutrition Practice, funded by the Public Health Agency of Canada (PHAC), developed a framework for the enhancement of public health nutrition practice in Canada. The Task Force developed specific competency statements for population/public health nutrition and these were included in the framework.

Between 2009 and 2012, a Partnership for Dietetic Education and Practice (PDEP), comprised of representatives of the 10 provincial regulatory bodies, Dietitians of Canada and 47 academic and practical dietetic training programs across Canada, enhanced the competency statements that the Task Force had developed. PDEP focused the competencies on entry-level practice and added Performance Indicators. These new competencies, the Integrated Competencies for Dietetic Education and Practice (ICDEP) (1) now serve as the standard for education and training for dietitians, practice registration and accreditation.

At the time of the initiation of this current project, not all academic and practicum programs across Canada had the required population/public health resources and activities that students need to meet these new Integrated Competencies for Dietetic Education & Practice. Therefore, new national tools were to be developed to address some of the defined gaps in educational resources and ensure that dietitians entering population and public health practice would have the appropriate knowledge, skills and abilities to meet workforce needs.

Project Goal

To develop bilingual, nationally accessible & validated web-based tools & resources that will support the attainment of *entry-level* dietetic competencies in population and public health nutrition.

Project Objectives

- Identify and address gaps in educational learning resources and tools.
- Identify existing population and public health nutrition content, learning tools and experiential learning opportunities in undergraduate and practicum dietetic education programs across Canada that could be shared with other programs or used to develop new resources.
- Consult with educators & students/interns to determine the range and types of tools that are needed to fill identified gaps and enhance population/public health nutrition education (didactic & practical).
- Develop, test and release a series of bilingual nationally accessible web-based tools & resources for use in dietetics and nutrition education programs across Canada.

Desired Outcomes

- To develop and make nationally accessible a set of bilingual validated tools and resources that students/interns, educators (university educators and practicum program/internship preceptors/mentors) could use that would support competency attainment in identified areas of public health nutrition and health promotion.

Earlier Research

- A national survey was conducted of all practicing dietitians in Canada to validate Practice Competencies from which Performance Indicators were identified. These results demonstrated the increased emphasis on public health/community health as an important aspect of practice. 2266 dietitians representing every province and territory in Canada completed the survey, representing more than 24% of the profession nationally. Thirty six percent of respondents were in the first 5 years of practice. Of the total respondents 14% worked in health promotion and overall the Health Promotion competency statements were highly rated by all dietitians as being important to entry-level dietitian practice.
- Consultations were held in September and October 2011 with dietetic education program directors, program faculty and coordinators of internship and practicum training programs. These consultations confirmed that opportunities for students to become involved in health promotion activities are highly variable across Canada and it was unlikely interns would experience equivalent activities across all programs. Educators supported the concept of common learning tools, materials or supports being developed that would facilitate achievement of a consistent level of knowledge and skill for new practitioners in public health. Those consulted also confirmed that the expertise within faculties to teach this material did not uniformly exist in learning institutions and would likely not be addressed for some considerable time due to limited staff turnover.

Potential Significance of Project

One of the trends articulated in the Dietitians of Canada document Vision 2020 (2) is that of a new and stronger partnership between educators and the profession that accelerates change and innovation in dietetic education. The consultation process used in the current project established a collaborative working relationship that:

- Guided the selection and/or development of appropriate learning tools to fill identified gaps in achieving population/public health nutrition competencies,
- Fostered collaboration among stakeholders as they engaged in the consultation,
- Communicated with stakeholders about the input gathered through consultations and how that input was used,
- Built knowledge and understanding of the project throughout its completion, and
- Promoted the adoption and integration of the tools and resources into learning programs.

Additionally, the resulting tools and resources developed by this project are filling a gap in dietetic education programs so that all students, regardless of their location in Canada, have an opportunity to meet an entry-level competency that otherwise may not have been possible with previously existing capacity of educational programs.

Project Description

This current project focused on addressing previously identified gaps in resources and training capacity in dietetic education programs across Canada to support dietetic students and interns to meet specific competencies and related performance indicators in the Integrated Competencies for Dietetic Education and Practice namely (1):

Assess food and nutrition–related issues of groups, communities and populations:

- Identify relevant group, community or population assets and resources, and
- Integrate assessment findings to identify priorities for population/public health approaches to food and nutrition.

Project Approach

The following elements comprise the approach to the project:

- Formation of a National Advisory Committee
- Consultation with Stakeholders
 - Online Needs Assessment Survey of Educators and Public Health Practitioners
 - Environmental Scan of Existing E-Learning Tools
 - Interviews with Key Informants to Identify Best Practice Tools, Resources and Approaches from other Population/Public Health Disciplines, Agencies and Professional Associations, and a scan of best practices in developing e-learning tools
- Development of New Learning Tools and Resources
- Development and Implementation of a Communication Strategy

1. Formation of a National Advisory Committee (NAC)

The NAC was formed to provide leadership, expertise and strategic counsel to the Project Consultant for consulting with undergraduate and dietetic practicum programs, developing, testing and launching a series of nationally accessible bilingual tools and resources for use in dietetics and nutrition education programs across Canada and guiding the development and implementation of a communication and evaluation strategy.

The NAC was comprised of 11 members and four ex officio members representing the following stakeholder groups:

- Academia – undergraduate/masters programs dietetic and nutrition education
- Dietetic practicum/internship programs
- Internationally educated dietitians practicum program
- Population/public health practice (recent graduates and those with 5+ years of experience).

Non-voting ex-officio members represented Dietitians of Canada contract management, the Project Consultant, as well as the Public Health Agency of Canada Project Liaison. The Project Consultant chaired the meetings.

2. Consultation with Stakeholders

A Consultation Framework was developed for the project in order to:

- Guide the selection and/or development of appropriate learning tools to fill identified gaps in achieving specified population/public health nutrition competencies and performance indicators,
- Foster collaboration among stakeholders as they engaged in the consultation,
- Communicate with stakeholders about the input gathered through consultations and how that input was used,
- Build knowledge and understanding of the project until its completion, and
- Promote the adoption and integration of the tools and resources into learning programs.

There were three elements to the Consultation:

a. An online needs assessment survey designed by the Project Consultant with input from the National Advisory Committee was conducted to collect data regarding:

- Existing tools/resources and experiential learning opportunities being used by academic and internship/practicum programs focusing on the competency and performance indicators of interest.
- An assessment of the kinds of supportive learning tools, resources and technologies that respondents felt would fill defined gaps at both the educational program and practitioner levels.
- Existing periodic/permanent continuing education programs in population/public health nutrition that may fill defined gaps in assessing performance indicators.

The survey was pilot tested by educators of academic and internship programs for appropriateness of questions, clarity and ease of response. The pilot testing took place in-person at the educators' meeting held in conjunction with the 2013 DC Annual Conference. Only minor wording revisions were identified by the educators and these were incorporated into the survey. Prior to the administration of the survey it was approved by the National Advisory Committee.

The survey was administered and data collected between July 3rd and August 31st, 2013. Direct invitations to complete the survey electronically were emailed in both English and French to academic and internship program directors. Potential preceptor/practitioners were invited to participate through messages sent to the Dietitians of Canada Community/Public Health Network, the Ontario Society of Nutrition Professionals in Public Health, the DC Members in Action Newsletter, and targeted contacts sent by a National Advisory Committee member. The invitational email message to stakeholders included a brief background about the overall initiative, the objectives of the consultation, the timeframe for a response and a link to the on-line survey. The email also informed respondents as to when a summary report of the consultation would be made available.

Reminder messages were sent at three weeks and four weeks from the initial invitation. The Project Consultant also followed up with personal reminders to the Academic and Internship Directors/Coordinators to enhance the response rate.

Informed consent was considered to have been given by the respondents when they followed the survey link and completed the survey. As there was little or no risk to participants for responding to the survey, ethics approval was not sought.

Those respondents that indicated they had adequate learning materials and resources to enable students to meet competencies, and would be willing to share these resources with the Project Consultant for potential use in this present initiative, were followed up by email and telephone to arrange for materials to be shared.

b. Environmental Scan of Existing E-Learning Tools

An environmental scan of web-based continuing education/professional development learning tools was conducted. While there are many definitions of e-learning or online learning in the literature (3), for the purpose of this project e-learning was defined as instruction accessed through computerized electronic technologies including the internet, intranet, CDs, mobile devices or other digital media. More specifically, the following types of materials were considered (4):

- Self-paced online courses or tutorials (i.e. those that could be taken at the convenience of the learner without any facilitation) and with interactivity features,
- Facilitated online courses and tutorials,
- Online courses of any length as long as they allowed the learner to interact meaningfully with the content,
- Power Point Presentations that engaged the learner through interactive quizzes, self-reflection activities, and
- Archived webinars.

Websites that were mainly collections of information resources and documents were not included.

Two existing environmental scan documents were invaluable for identifying potentially appropriate online tools - Environmental Scan of Online Continuing Education Resources to Support Public Health Competencies commissioned by the Public Health Agency of Canada (5) and Recommended Online Learning Opportunities Related to Health Equity and Social Determinants of Health for Public Health Practitioners in Canada prepared by the National Collaborating Centre for Determinants of Health (NCCDH) (4). While these two scans were not specific to population/public health nutrition, nonetheless many resources identified could readily be applied or adapted to the nutrition context.

The findings of these scans were narrowed to focus on e-learning materials pertinent to the ICDEP performance indicator gaps in population/public health (6).

A further search of the internet, using many of the search terms defined for the above-mentioned scans (online learning; e-learning; online courses; distance education; continuing education; professional development; public health; population health; community needs assessment; situational analysis; community assets; nutrition) was conducted by the Project Consultant to determine if there were any more recently developed online materials not captured in these scans that should be considered.

As cost to access online materials was identified by survey respondents as a potential barrier for students and practitioners, only those tools that were available for access free of charge, or for a very nominal fee (less than \$25), were included in the final scan report. This excluded online courses offered by universities or colleges for credit where pre-requisites and registration fees were required. Materials also had to be relevant to educators and students in undergraduate dietetic programs or internships, public health, community health or primary care professionals.

Only English language resources were searched in this scan since other language resources could not be evaluated for potential relevance by the Project Consultant. Search efforts focused on content from Canadian and US sources, although materials from other countries were reviewed if they seem to have potential for the Canadian setting.

Based on these criteria, a program profile was created by the Project Consultant for 20 online resources out of a total of 42 that were originally identified. These profiles are summarized in Appendix I and were provided to members of the National Advisory Committee for further assessment using the following criteria:

- High relevance of content to the Canadian population/public health setting and specifically to performance indicators of interest.
- E-learning content is accurate and reading level is appropriate for the audience.
- Information is succinct and logical.

- Good to excellent quality of instructional design based the following criteria adapted from Centers for Disease Control and Prevention (CDC) Key Instructional Components and Best Practices (3):
 - Effective use of colour, graphics, borders and white space
 - Learning is facilitated through the application of interactive strategies that engage learners and stimulate recall of prior knowledge. Different levels of interactivity may be used to suit content and audience needs. All interactions work well within the organization's web architecture.
 - Interface is learner-friendly with a main menu and other navigational elements that help learners know where they are within the course and move easily through it.
 - A learning assessment is included and is designed to determine if the intended learning outcomes have been met.

Reviewers were also asked to rank each online resource on the following scale:

- A – resource is recommended as is or with minor modifications
- B – instructional design quality is good but needs adaptation to a Canadian context
- C – content has merit but is weak in some key instructional design areas
- D – not recommended

c. Identification of Best Practice Tools, Resources and Approaches from other Population/Public Health Disciplines, Agencies and Professional Associations

Telephone interviews were conducted by the Project Consultant with selected key informants from other population/public health disciplines, agencies and professional organizations to determine what approaches they have used to address gaps in meeting professional competencies. Key informants were also asked to identify what they considered to be best practices or success factors for DC to consider in developing and/or adapting new online tools. Key informants were identified through various sources including the Project Consultant, the National Advisory Committee and recommendations made by key informants themselves.

Potential informants were sent an email explaining the initiative and provided with the questions that would be posed in the interview. They were asked to consent to an interview via return email to the Project Consultant. All potential informants contacted agreed to participate in an interview. At the time of the interview, their verbal consent was also obtained for audio recording the interview. Interviews were audio-recorded to improve accuracy of reporting and the summary transcript was provided back to interviewees to ensure the transcribed information was correct. Common themes and unique findings with respect to best practices and success factors were summarized and used to formulate recommendations on resource development for the present initiative.

Several guidance documents and synthesis reviews on best practices for creation of e-learning materials were identified from a web-based search (3, 7-14) and these were consulted, along with the findings from the key informant interviews, to formulate recommendations on developing e-learning materials for this initiative.

3. New Resources and Tools Developed by the Project

Based on the consultation findings and with input from the National Advisory Committee, it was determined that an online case-based learning package presented the best solution to fill the identified gap to support educators, students and practitioners to meet the competency and performance indicators regarding community needs assessment. Because of perceived barriers for some to have ready access to web-based learning products, a downloadable off-line training package for students and educators was also considered desirable.

A curriculum/instructional design consultant was recruited to design the learning package. Three nation-wide reference groups representing students/interns, educators (academics and internship/practicum directors/coordinators) and practitioners were recruited to support the development of the training package by providing content as well as iterative feedback on the materials as they were being developed.

4. Development and Implementation of Communications Strategy

A Communication Strategy was developed with support of the National Advisory Committee identifying multiple channels to promote the launch of the course and support materials. Strategies included use of online e-newsletters for Dietitians of Canada and its networks; listservs hosted by the Public Health Agency of Canada, the Ontario Nutrition Resource Centre and “Gerry’s List (BC); E-Watch Newsletter (McGill University); in-person presentations; dissemination of promotional flyers; conference exhibits; networking tables and social media including Facebook and Twitter.

Findings

The findings from the consultation process are detailed in a more extensive report prepared for the National Advisory Committee (15). This report has previously been filed with the Public Health Agency of Canada. A short summary of these findings follows.

1. Online Needs Assessment Survey

Response

The response rate for the online needs assessment survey was 91% for educators of academic/practicum programs. This represented the majority of academic and internship programs Canada-wide. It was not possible to determine a response rate from public health practitioners because respondents were recruited through an open invitation process using a variety of networks. However, responses were obtained from all provinces, heavily weighted to Ontario where the largest proportion of public health practitioners are employed in Canada.

Preferences for Learning Material Format

For those academic/practicum programs that have access to community-based student placement opportunities, hands-on experience was the preferred method identified for educators to support student learning. Assigned reading from textbooks and the current literature as well as authoritative websites were also commonly cited.

For educational settings where there are limited or no community-based placement opportunities, simulated learning experiences such as realistic case studies, interactive web-based inter-activities, videos, field trips and project assignments were considered desirable methods for teaching the concepts regarding community needs assessment.

There was limited awareness of existing professional development opportunities, either short-term or ongoing, for supporting students and practitioners to develop knowledge and skills in conducting community needs assessments.

Because there is variability across the country in the various settings where online tools and resource material would be accessed, this survey determined whether preceptors/practitioners perceived there were technological barriers that may prevent students and practitioners from accessing online tools. While 42% of respondents didn't perceive there would be a problem, the combined response of those who answered "yes" and those that were uncertain (58%) suggested that there may be significant barriers experienced in some settings.

Potential barriers that were identified include firewalls, inconsistent or slow internet access in rural areas, and other technology challenges. It appears that those in community-based settings perceive there to be more potential barriers than were identified by academic/internship respondents.

2. Environmental Scan of Existing Learning Tools

Based on the review of online materials by the National Advisory Committee that were identified by the Project Consultant, 20 potential resources were selected as useful materials to be recommended to educators and practitioners as is, or to be considered for adaptation with permission from the owners of the materials. Tools that were recommended through this review process are included in Appendix I of this report.

3. Interviews with Key Informants on Best Practice in On-line Learning Tools, Resources and Approaches

Seventeen (17) telephone interviews, were conducted between June and September 2013 with key informants from other population/public health disciplines and agencies. A synthesis of the contacts, professional competency supports and the process for their development, type of evaluation used and recommendations on best practices/success factors are summarized in Appendix II.

It is noteworthy that few of the key informant interviews identified academic/practicum programs or students as the main focus for supporting attainment of professional competencies – most focused on practitioners themselves. An exception is the Association of Faculties of Medicine of Canada (AFMC) that places a major emphasis on enhancing the population/public health curriculum in medical education. The organization has done extensive work to support teaching of population/public health.

Best Practices/Success Factors

Key informants provided a wealth of recommendations for best practices and success factors in supporting competency development. It is clear from their feedback, that there is no one “best practice” approach that should be adopted. Rather many factors need to be taken into consideration for developing learning tools that will meet the needs of educators, students and practitioners relative to the identified competencies in population/public health nutrition. Guidelines and recommendations have been grouped according to common themes:

- **Sustainability** – consider sustainability of the program/product at the outset and plan for required resources to keep the content current and maintain the technology.
 - Engaging with volunteer interest networks can be a key factor in this sustainability but institutional support (staff and financial resources) is required for long-term continuity and sustainability.
 - Facilitated online programs seem to have a higher completion rate than those that are designed strictly as self-study. While facilitation is more resource-intensive, when it comes to sustaining interest in online learning it may be worth the investment in providing some access to a real-time expert as an element of the program.
- **Marketing and promotion** – an integrated communication strategy is needed to market and promote the product to all stakeholders, including students, educators, practitioners and employers.
 - It's not sufficient to simply post materials to a website and do a one-time push on their promotion. Marketing must be regular and ongoing.
 - Take advantage of existing networks and places that your audience already goes for guidance and tap into these ready-made familiar channels.
 - Newer professionals have a “me/we” focus rather than a focus on “us” or what is good for the profession. When marketing/promoting learning opportunities to students and new graduates it is important to appeal to the “me/we” level.
 - Employers are important stakeholders in the promotional strategy. Educating them about the competencies, and the supports available to their staff to enhance and maintain their knowledge and skills, helps to raise the profile of the competencies and lays the groundwork for workplaces to support dietitians to take advantage of the learning tools during working hours. In turn, this makes it more likely that the resources will be used.

- **Capacity building** – foster collaborative partnerships nationally, internationally and across disciplines with agencies/groups that have common objectives to yours.
 - Extend resources by augmenting or adapting those that already exist rather than starting from “a clean slate.”
- **Accessibility and learner-focus** – not all potential learners have access to the most up-to-date browsers and many have restrictions at work on accessing third-party materials.
 - Professionals working in northern Canada were highlighted as having special limitations with variable Internet connections and speed. Producing learning materials that can be used off-line, such as CDs, should be considered.
 - While learners are becoming more competent with technology, the skill level is variable across the profession as well.
 - Online learning is a field unto itself. Seek out expertise and best practice guidance to ensure excellent design of the e-learning environment. Interactivity, engagement and ease of navigation are critical success factors. Minimize the number of clicks-through to access materials.
 - Ensure learning activities have a “sticky” design, i.e. they are based on real-life examples to bring the material alive for the learner and ensure its practicality. Engage practitioners in telling their stories and build these real-life experiences into case studies. Ensure you get permission from the practitioner to use his/her stories this way.
 - Consider how users will access your resources/tools with a mobile interface (i.e. smart phone, tablet etc.) as this will impact on the overall design to the tool. You may need different formats and/or different points of entry to facilitate easy access by the user.
 - Give consideration to producing a French version of learning materials as a parallel process with the development of the English version, rather than translating the English version. While not always possible, this results in a better product overall.
- **Cost and time commitment** – educators and practitioners were like-minded in highlighting cost as a barrier to use of learning tools. Similarly, time commitment to complete online modules is an important consideration for busy students and practitioners.
- **Quality of evidence** – ensure content is supported by high-quality evidence.
 - The value of having professional development programs accredited was seen as important depending on the intended audiences and their form of continuing professional competency, that is whether a certain number of points or study hours must be accumulated.
- **Evaluation** – should be an essential element of all programs and learning tools. Integrate continuous quality improvement feedback mechanisms into the tools and online tools and dedicate resources to review and consider how to address feedback.
- **Opportunities for in-person networking** – online learning isn’t for everyone and not all content lends itself to a web-based platform. It is important to continue to provide opportunities for in-person learning and networking.
 - Some suggest that establishing communities of practice for networking hasn’t proven to be successful, especially for younger professionals. It is suggested that younger members have their own social networks and don’t necessarily rely on their professional association to build or maintain these for them.

4. Scan of Best Practices/Success Factors in E-Learning

A recent review of the literature conducted by Ballew et al identified key success factors that would inform the development and delivery of web-based training for public health practitioners. (11). Findings from this review support many of the recommendations made by key informants.

- **A clear and consistent design**, layout and organizational flow of web-based training materials was considered a key factor influencing retention of users. Including variations in modes of learning to actively engage the learner and hold interest, such as video and audio clips and animation, along with the use of color and graphics were recommended.
 - Virtual learning tutorials or one-time face-to-face orientation sessions are also supportive of learner satisfaction.
 - Strong technical support is needed for timely updating content and troubleshooting. A best practice guideline for technical support to users is to provide support 24/7 through mechanisms such as toll-free hotlines, automated help desks and FAQ pages.
- **Successful web-based training designs support independent learning** by maximizing flexibility in the choice and order of exercises to complete. They also appeal to differences in learning styles through the kinds of interactivities provided, such as case studies, storytelling, demonstrations, quizzes with immediate feedback, games that provide practice in applying theory.
- **Inclusion of concrete “real-world” examples** that aid in building skills rather than promoting memorization of concepts and facts, was also considered an important element of successful web-based training. Providing opportunities for exchange of ideas amongst learners and with a subject matter expert is encouraged through the use of chat rooms, instant messaging, bulletin boards, blogs, email, audio and video conferencing and coaching.
- **Implementing effective, sustained marketing strategies** is another success factor identified in the Ballew review that supports the recommendations from key informants. In addition to flyers, newsletters, emails and intranet postings within an organization, placing a link on websites that are visited often by intended users (i.e. go where your audience is) is an effective strategy, as is search engine optimization to increase the volume and quality of traffic to the website by making it more visible to users.
- **Incentives such as certificates of completion**, access to post-training materials, recognition in newsletters are other recognized means to recruit and retain users for web-based training.
- **With regard to evaluation**, the Ballew review suggests that there is little in the literature on best practices for evaluating web-based training and as a result these authors contend that little is known about what criteria best measure the key characteristics and effectiveness of web-based training.

More recent to the Ballew review, the Centers for Disease Control and Prevention (CDC) has developed CDC’s E-Learning Essentials, a document identifying the components and best practices essential to quality e-learning (3). There is concordance with many of the best practice elements identified in the Ballew review.

5. Development of Learning Tools and Resources

An online self-pacing bilingual course was developed and hosted on Dietitians of Canada online learning platform at <http://www.dietitians.ca/Knowledge-Center/Learning-On-Demand/Learning-On-Demand-Store.aspx>. A second course format was developed addressing the same concepts as the online version but designed as a PowerPoint presentation and Student Workbook for use by those who either don't have easy access to the internet or for whom the offline format better met their learning needs. The course focuses on two performance indicators in the Integrated Competencies for Dietetics Education and Practice within the Population and Public Health Competencies.

After taking the course students will be able to:

- Describe reasons why assessing groups, communities and populations are important in dietitian professional practice.
- Assess groups, communities and populations according to size, demographics, needs, strengths and abilities.
- Identify assets and resources available to groups, communities and populations.
- Collect, organize and utilize sources of information about groups, communities and populations relevant to a proposed program.
- Integrate findings into community nutrition program plans.
- Prioritize goals and strategies in community nutrition programs based on population assessment data.

The course consists of the following 6 modules and includes an integrated glossary of terms as well links to websites and documents for further study.

Module 1 – What is a Population and Public Health Needs Assessment

Module 2 – Gathering Secondary Information

Module 3 – Gathering Primary Information and Data

Module 4 – Organizing the Data

Module 5 – Priorizing and Integrating Data

Module 6 – Applying Your Knowledge

A self-scoring end of course quiz provides feedback to students on their level of mastery of the course content. A Certificate of Completion can be printed when the student achieves a score of 80% or better on the quiz.

A course feedback survey is also included to provide DC with ongoing information about users' satisfaction with the course.

The course was launched in September 2014 and as of February 2015 course registration has reached 795 participants Canada wide – see Project Evaluation for further detail.

Evaluation

A. Methodology

At the outset of the initiative an Evaluation Framework and Project Logic Model were designed by the Project Consultant with the support of Evaluation Consultants Susan E. Ross and Associates and Zena Simces and Associates. The Project Logic Model is included in Appendix III.

The evaluation framework was based on a theory of change model (19, 20) that suggests that if users of the project materials

- understood the project's intended purpose and desired outcomes,
- were actively engaged in defining resource needs to address gaps that impede achievement of entry-level competencies,
- played an active role in the development of new learning tools,
- were able to easily access the web-based learning tools, and
- partnered with other stakeholders so that they were supportive of and engaged in the development process and use of the new learning tools,

then, they will be more likely to support, promote and use the learning tools that were designed to assist students and practitioners in meeting specific entry-level competencies in population / public health nutrition practice.

a. Formative Evaluation

Data were collected on the process for the development of the online course and related materials through the following mechanisms:

- Feedback on the satisfaction of the National Advisory Committee on the progress of the initiative was gathered in an anonymous online survey after each meeting of the group. A synthesis of this feedback indicates that the majority of the NAC were satisfied or very satisfied with the project progress, the communication about the project, their opportunities for input to the project and the use of their feedback. These results are summarized in the following Table 1.
- Feedback was gathered from the three Reference Groups that reviewed the draft materials for the online course through an anonymous online survey to determine participants' satisfaction with the communication and information they received explaining the purpose and process for the review, the opportunity they had to provide feedback, how well their feedback was used in revising the materials and any recommendations they had on how to improve the process. Overall, all reference groups expressed satisfaction with the process. Their responses are summarized in Table 2.
- Table 3 summarizes other outcomes, indicators and results defined by the Project Logic Model:
 - Engagement of stakeholders
 - Development and implementation of promotional communication strategy
 - Implementation of an environmental scan and resources/tools assessment to address defined gaps in population/public health
 - Identification of best practice tools, resources and approaches from other public health disciplines
 - Development of bilingual learning materials and resources prepared to meet gaps in competencies for population/public health

b. Summative Evaluation

An optional online feedback survey was included within the course for registrants to provide feedback on the learning experience, the content of the course and format. At this point in the academic and internship year, many course registrants are still engaged in taking the course. Feedback is based on 107 respondents (98 English and 9 French respondents). These early results are positive with 90% indicating that they would recommend the course to colleagues. As there was no difference in the level of satisfaction between those participating in the English version of the course compared with those participating in the French version, the results have been combined and summarized in Table 3.

Table 1. Results of National Advisory Committee Post Meeting Surveys

<i>Questions</i>	<i>Meeting Date</i>						
	<i>April 2013 (n=8)</i>	<i>June 2013 (n=8)</i>	<i>October 2013 (n=5)</i>	<i>January 2014 (n=6)</i>	<i>March 2014 (n=10)</i>	<i>June 2014 (n=7)</i>	<i>March 2015 (n= 5)</i>
1. Did you receive communication about the meeting and related documents in a timely manner?	8 - YES	8 – YES	5 - YES	6 – YES	10 - YES	6 – YES 1-NO*	5 - YES
2. If you participated in the meeting were you given sufficient opportunity for input?	8- YES	8 - YES	5- YES	5- YES 1- NO*	7– YES 3 – N/A [Respondents not able to attend the meeting]	5 YES 2-N/A { Respondents not able to attend meeting]	5 - YES
3. Has your feedback regarding the draft documents been addressed to your satisfaction?	8 – YES [Terms of Reference; Power Point of Project Goals, Objectives & Time Plan]	8 – YES [Project Logic Model, Communication/ Dissemination Strategy, Evaluation Framework, Consultation Framework]	5 – YES [Environmental Scan/Needs Assessment]	5 – YES 1- NO* [Approach to e-learning modules; learning objectives for the e-learning modules]	9 – YES 1 – N/A [Respondent not able to attend the meeting]	7 YES	5- YES
4. How satisfied are you with the communication about the project?	8 – VERY SATISFIED	7 – VERY SATISFIED 1 - SATISFIED	5- VERY SATISFIED	5- VERY SATISFIED 1- SATISFIED	10 – VERY SATISFIED	7 – VERY SATISFIED	5- VERY SATISFIED
5. How satisfied are you with the overall progress of the project to date.	8 – VERY SATISFIED	7 – VERY SATISFIED 1 - SATISFIED	5 – VERY SATISFIED	6 – VERY SATISFIED	9 VERY SATISFIED 1 - SATISFIED	7 – VERY SATISFIED	5- VERY SATISFIED

* Since the response to the surveys was anonymous and there were no additional comments provided regarding the negative response to the questions about feedback and communication from the January meeting, it is not possible to provide further insight as to these concerns. Following the January meeting and receiving an indication that one of the members was not satisfied with some aspects of the project, the Project Consultant invited respondents to be in touch with her if they had concerns with the project. There was no communication from the NAC member who expressed these concerns through the survey.

Open-ended Responses – Is there anything else you'd like to comment on regarding the project?

- I have a good general understanding of the project
- The Project Consultant did a great job of walking us through the documents today; I have a better understanding after today's meeting
- Very well organized; respected the time limit of the meeting
- Impressed by the amount of work & preparation that has already been accomplished. Meeting time was used very efficiently & at the same time, everyone had an opportunity to speak to the agenda items
- Is there potential to use a webinar format for sharing documents?
- Great job facilitating the meeting
- Great work – you did an amazing job at the [DC] conference communicating about the project
- If possible could future module content which requires feedback also be provided in text format? [modules were viewed on line in the format that they would be accessed by learners)
- I am happy to be involved. Thanks for the opportunity.
- Could we standardize future module feedback – not sure if the way I've been providing feedback has been helpful or not? I was unclear at times on the timeline for module content updates. Perhaps would be helpful to have version codes for edits. Just a thought. Thanks.

Table 2. Results of Feedback by Reference Groups on the Draft Online Modules

<i>Questions</i>	<i>Educator Respondents</i>	<i>Student Respondents</i>	<i>Practitioner Respondents</i>
1. In what review Reference Group did you participate?	4	7	5
2. How satisfied are you regarding the communication/information you received about the role of the Reference Groups & the process for review of the on-line modules [e.g. email invitation to participate on a Reference Group, Terms of Reference, telephone orientation to the role & process for review]?	4 - VERY SATISFIED	5 – VERY SATISFIED 2 – SOMEWHAT SATISFIED	4- VERY SATISFIED 1 – SOMEWHAT SATISFIED
3. How satisfied are you with the opportunity you have had to date to provide written feedback using a structured response template, conference call with our reference group facilitated by the Project Consultant)?	3 – VERY SATISFIED	6 – VERY SATISFIED 1 – SOMEWHAT SATISFIED	3 - VERY SATISFIED 1 – SOMEWHAT SATISFIED 1 - NEUTRAL
4. How satisfied are you that you were provided with sufficient information about the next steps in the review process?	2 – VERY SATISFIED 1 – SOMEWHAT SATISFIED	6- VERY SATISFIED 1 - NEUTRAL	2 – VERY SATISFIED 3 – SOMEWHAT SATISFIED

Additional open-ended comments – Is there anything else you'd like to comment on?

- The process was excellent
- Everything was pretty straight forward
- Overall, good communication about the role of the reference groups. The time commitment could have been made clearer or emphasized more, as I wasn't entirely prepared for the time commitment before starting.
- Lots of opportunities to provide feedback in various forms/formats.
- We were always kept informed of what was coming next.
- I found the telephone conference calls to be bit of a waste of time. We basically just elaborated upon feedback we had already submitted in written format.
- Information was clear, concise, orientation was detailed.
- The feedback process felt long and quite repetitive.
- I was given an overview about the next steps so I know what to look for.
- Emailing written feedback prior to the conference call worked all right for me.
- The only negative is that it [the modules] seem to be aimed towards a younger audience. But I am 23 and I enjoyed the interactive aspect.
- I never felt like the commitment was more than what was laid out – I was fully aware of what the reference group entails.
- The ability to choose times that worked best for myself helped fit the conference call in amongst my schedule. I am happy with the flexibility offered
- Next steps were clearly laid out on the phone and in emails.
- Lynda communicated intent and information in many ways and was very clear about what was needed.
- Many options were available for my input.
- Maybe have smaller working groups within the main group. This would allow for discussion & then these subgroups could collate their information this could be presented/emailed to the larger group.
- The connections were made with a full, flexible and cooperative approach, worked well & successful.
- I wish I knew more what the detailed objectives are.
- Just a little unclear on timeline.
- I was very happy and felt confident with the information that was provided to me, as well as the process for the review of the on-line modules. Although I was forgotten once in the email distribution, I felt well-informed & aware of the events & teleconferences.
- Everything has been great.

Table 3. Summary of Project Logic Model Outcomes, Indicators and Results

1. Engagement of Stakeholders

<i>Short Term Outcomes</i>	<i>Indicators</i>	<i>Results</i>
a. National Advisory Committee [NAC] reflects national scope & interests	<ul style="list-style-type: none"> NAC supports/approves the composition of the NAC 	<ul style="list-style-type: none"> The NAC consists of 4 academic members, 4 internship directors/program coordinators and 4 practitioners (2 recent graduates and 2 members experienced in population/public health). There is representation on the committee from all 6 Dietitians of Canada regions. Seven NAC meetings have been held since the beginning of the project between April 2013 and March 2015 to ensure the NAC is aware of and supports the project and its progress. Meeting minutes have been documented and approved by the NAC.
b. Stakeholders are aware of and support the initiative	<ul style="list-style-type: none"> Communication & Dissemination Strategy is comprehensive, including all stakeholders & uses multi-channels to reach them 	<ul style="list-style-type: none"> Eight e-newsletters to all DC members disseminated between March 2013-March 2015. Five e-newsletters to Educators Network, Student Network and Public Health/Community Nutritionists Networks disseminated between May 2013 –March 2015. In-person presentations to 50 dietetic educators at the DC annual conference June 2013 and 2014. Abstract submitted and presentation at the CPHA annual conference in May 2014. Demonstration of the draft online modules to DC members at the DC 2014 Annual Meeting Exhibitors Showcase and “speed-dating” tables to increase awareness and promote the modules widely to members. Pull-up promotional banner developed for use at DC events to promote the course. Promotional brochure emailed and directly disseminated to DC members and other stakeholders at events. Promotion of the course in the PHAC Listserv for online learning managed by Andre LaPrairie Course promotion included in the E-Watch Newsletter (McGill) Project Consultant and DC Project Manager participated in the Knowledge Translation and Exchange meeting hosted by PHAC (June 2014) to share progress with leads from other funded projects. Promotion of the course through Ontario Society of Nutrition Professionals in Public Health Ontario Nutrition Resource Centre promotion to listserv subscribers Bilingual course flyer shared with the National Collaborating Centre for Methods and Tools Promotions through social media – DC Facebook and Twitter

<i>Short Term Outcomes</i>	<i>Indicators</i>	<i>Results</i>
	<ul style="list-style-type: none"> Feedback from stakeholders indicates awareness & support of initiative 	<ul style="list-style-type: none"> Following each meeting of the NAC, members are requested to complete an online anonymous survey regarding communication about the project and satisfaction with its progress. The majority of responses indicated that the NAC was very satisfied with all aspects of project. See Table 1 - summary of meeting evaluation and satisfaction with project progress (pages 17-18). Three Reference Groups (Educators, Students & Practitioners) with cross-Canada representation were established and feedback gathered on draft online modules. Orientation Conference call with of Reference Groups held to familiarize them with the focus and task for providing feedback & regular updates to the groups to apprise them of the progress of the project and its launch. Online process evaluation survey completed by Reference Groups involved in providing feedback on the online modules indicates the majority were very satisfied with their involvement, <i>the process for gathering feedback and the manner in which their feedback was incorporated. See summary of process evaluation Table 2 (pages 19-20).</i> At 6 months post launch, the English version of the course is subscribed to 607 members and 38 non-members. Two group subscriptions from University programs at McGill (68 students) and UBC (74 students); 65 users have registered for the French version of the course. To date many registrants are still engaged in the course and have not yet completed the feedback survey. However, early feedback from those who have completed the survey indicates a positive response with 90% indicating that they would recommend the course to colleagues (see Table 4 for summary of survey results pages 25-27).

2. Development & implementation of promotional & communication strategies

<i>Short Term Outcomes</i>	<i>Indicators</i>	<i>Results</i>
a. Stakeholders are aware of the initiative & its intended outcomes	<ul style="list-style-type: none"> Feedback from stakeholders indicates that at least 80% are aware of & support initiative. Feedback from stakeholders indicates that at least 80% are aware of new learning tools & how to access them. 	<ul style="list-style-type: none"> On-line course evaluation survey indicates that of those that completed the survey most strongly support the initiative – 90% would recommend the course to their colleagues (see Table 4 Feedback Survey pages 25-27). Communication channels used to dissemination information and promote the course include electronic newsletters to DC members and their networks as well as to related professional organizations; national and regional listservs, presentations at the DC and CPHA conferences; dissemination of a promotional flyer; participation in knowledge translation event hosted by PHAC, social media channels including Facebook and Twitter. Early uptake of the course across Canada indicates that stakeholders are aware of the learning tools and are accessing them.

3. Conduct environmental scan & resources/tools needs assessment to address defined gaps in population/public health nutrition competencies

<i>Short Term Outcomes</i>	<i>Indicators</i>	<i>Results</i>
a. Types of tools & resources defined to meet identified gaps for achieving competencies in population/public health nutrition at the academic & internship/practicum program levels as well as to meet the needs of practitioners	<ul style="list-style-type: none"> • Structured process exists to address defined gaps • Educators & practitioners respond to needs assessment/environmental scan survey 	<ul style="list-style-type: none"> • An online environmental scan/needs assessment was disseminated to educators and public health practitioners between July 3rd – August 31st, 2013 to determine perceived gaps • A response rate of 91% was achieved. • A comprehensive report of the findings and recommendations was produced and filed with PHAC. The report was also posted to the DC website at http://www.dietitians.ca/Downloadable-Content/Public/Env-Scan-Report-Dec2013.aspx and promoted to members through e-newsletters.

4. Identification of best practices tools, resources and approaches from other population/public health disciplines

<i>Short Term Outcomes</i>	<i>Indicators</i>	<i>Results</i>
a. Identified best practices & success factors incorporated into the design of tools, resources & experiential opportunities to address existing gaps	<ul style="list-style-type: none"> • Positive feedback from stakeholders that best practices approaches are used in development of tool/resource content, and format 	<ul style="list-style-type: none"> • 17 key informant telephone interviews conducted between June – September with selected health professionals/organizations and an internet scan of best practices in development of online learning tools conducted to identify best practices approaches. A comprehensive report of the findings and recommendations was produced, approved by the NAC and posted to the DC website at http://www.dietitians.ca/Downloadable-Content/Public/Env-Scan-Report-Dec2013.aspx • Curriculum and Instructional Design Specialist has incorporated recommendations from the report into draft online learning modules. • Minutes of NAC meetings and post meeting feedback surveys indicated satisfaction with the case-based approach and interactive features of the draft e-learning modules. • Report of Reference Group feedback on the tools is positive, has been summarized into a synthesis report and approved by the NAC. Feedback where appropriate was incorporated into the course.

5. Project logic model & evaluation framework developed

<i>Short Term Outcomes</i>	<i>Indicators</i>	<i>Results</i>
a. Project logic model provides a clear connection between activities, outputs & outcomes of the initiative	<ul style="list-style-type: none"> Stakeholders provide positive feedback on project logic model 	<ul style="list-style-type: none"> NAC meeting minutes indicate support for the project logic model and evaluation framework. NAC post meeting feedback survey indicates satisfaction with the project progress.
b. Project is complete & achieves short term outcomes	<ul style="list-style-type: none"> New bilingual learning materials are posted and accessible on line 	<ul style="list-style-type: none"> Dietitians of Canada Learning on Demand hosts the online course containing 6 interactive bilingual modules, an off-line course learning package (PowerPoint presentation & Student Workbook). Course is available at http://www.dietitians.ca/Knowledge-Center/Learning-On-Demand/Learning-On-Demand-Store.aspx
c. Stakeholders are satisfied with the consultation process and communication on the project	<ul style="list-style-type: none"> Stakeholders provide positive feedback on the consultation process and communications on the project 	<ul style="list-style-type: none"> 15 of 22 reference group members provided feedback on the development and communication process for course with 87% of respondents indicating that they were very satisfied (see Table 2 pages 19-20). According to post meeting surveys of the National Advisory Committee, they are very satisfied with the communication about the project (see Table 1 pages 17-18).
d. Stakeholders plan on using the new learning tools	<ul style="list-style-type: none"> Stakeholders indicate intention to use learning tools and are actually using them 	<ul style="list-style-type: none"> The course was launched September 2014. After 5 months post launch, the English version of the course is subscribed to 607 members and 38 non-members. Two group subscriptions from University programs at McGill (68 students) and UBC (74 students); 65 users have registered for the French version of the course.

6. Bilingual learning materials & resources prepared to meet identified gaps in entry -level competencies for population/public health nutrition practice

<i>Short Term Outcomes</i>	<i>Indicators</i>	<i>Results</i>
a. Reference groups engaged in beta testing web-based tools	<ul style="list-style-type: none"> Feedback from reference groups 	<ul style="list-style-type: none"> Three reference groups consisting of educators, students and practitioners were engaged in reviewing the course online as well as the off-line versions. Comments were synthesized in where appropriate were incorporated into the materials
b. Educators, students and practitioners are aware of & engaged in promoting use of new materials & resources	<ul style="list-style-type: none"> Feedback on awareness & satisfaction from educators, students and practitioners is positive 	<ul style="list-style-type: none"> The three DC networks of Educators, Students and Community/Public Health Practitioners have been supportive in including articles promoting the course and its availability to their members through online newsletters. The course was launched September 2014. The online survey results of those who have completed the course and provided feedback indicate high satisfaction with the course and support materials (see survey results Table 4 – pages 25-27).

**Table 4. Results of Feedback by Course Registrants [English & French] – Online Course for
 Population/Public Health Community Needs Assessment**

<i>Questions</i>						
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neutral</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Total Responses</i>
1. The information in these modules held my interest.	32 (33%)	63 (59%)	8 (8%)	1 (1%)	2 (2%)	107
2. I increased my understanding about how to assess community nutrition needs.	57 (56%)	40 (39%)	0	3 (3%)	2 (2%)	102
3. I increased my understanding about how to prioritize community nutrition needs.	43 (43%)	50 (51%)	2 (2%)	2 (2%)	2 (2%)	99
4. I will be able to apply this learning in my career.	42 (43%)	46 (47%)	8 (8%)	1 (1%)	1 (1%)	99
5. I would recommend this e-learning course to others.	89 (90%)			10 (10%)		99

Demographics of Respondents to Online Course Survey

<i>Student Status</i>	<i>Numbers/ Percentage</i>
Undergraduate Student	14
Dietetic Intern/Stagiaire	24
Internationally Educated Student/Intern	4
Masters/Practicum Student	9
Public Health Practitioner	33
Other	15
Total	99

<i>Provinces/Territories</i>	<i>Numbers/ Percentage</i>
Alberta	10
British Columbia	12
Manitoba	10
New Brunswick	7
Newfoundland Labrador	1
Northwest Territories	1
Nova Scotia	8
Nunavut	0
Ontario	33
Prince Edward Island	4
Quebec	8
Saskatchewan	5
Yukon	0
Total	99

Open Comments

Format

- Interesting and realistic scenarios
- I liked the format of the course – it was interactive and made what might be dry material more interesting.
- Well developed, inclusive and effective, practical and applicable to a variety of RD roles
- Concrete examples – easy to follow.
- Images were helpful as well as the interactive requirement to move on in the course and to get additional information.
- It was a little long. The conversations between the advisory team made it feel longer than it should have. I felt like skipping through it.
- Module 1 was a bit dry and took time to get into. The other modules seemed to be more interesting. The questions we had to answer helped keep my interest.
- Modules were easy to navigate.
- I felt the usability of the program was a bit off at times when answering the questions in the modules. For instance, sometimes where you clicked had to be very specific and sometimes I had trouble moving answers with the drag and drop options.

Content

- Very relevant information. Very informative. The way it was presented really facilitated learning. It was presented in a fun way that kept my interest and made it very relevant. All the questions to self-test were a big help. Thank you to whoever put this together! Really fabulous.
- I am particularly interested in maternal health and pregnancy so I was pleased to see that these were the areas of focus in the modules.
- I work in Public Health so very relevant and interesting to me.
- I liked the case-based scenarios.
- I found the information in the modules to be very basic.
- I think the modules included a lot of relevant examples and encouraged hands-on learning.
- I did know most of this information before, but it was a review – but a good one.
- I especially appreciated direction to research resources and examples of needs assessment and proposal format.
- Having more confidence based on completion of this course will increase the frequency of application and my ability to work with teams in applying this information.
- We don't often get to put the whole procedure into practice – but will be much more prepared if we do get the opportunity.
- This course has direct relevance to my dietetic internship, as it has helped me to develop competencies related to Population and Public Health and has provided me with the foundational knowledge necessary to complete my Population and Public Health rotation later this year.
- These skills are transferrable to all areas of dietetics.
- As a preceptor I was able to use some of this information with my dietetic intern.

Implications

Relevance

- Practitioners – the materials provide a convenient, low-cost, accessible and self-pacing course of study in two formats – online and downloadable document formats – to support dietetic educators to prepare students to meet a focused entry-level area of competency in population/public health. Additionally new practitioners or those wishing to transfer from another practice area to public health can utilize this course to upgrade and/or refresh their skills in conducting a community needs assessment
- Dietitians of Canada – as the national professional organizations for dietitians in Canada, DC is committed to providing current evidence-based practice tools that support continuing education and training for dietitians. This course adds to the suite of tools DC can offer its members.
- Other stakeholders – employers of dietitians and other public health staff responsible for conducting community needs assessments can take advantage of this certificate course to development/refresh knowledge and skills.

Impact on practice/services

- This course fills an important gap for some academic and internship/practicum programs in Canada who previously may not have been able to support students in achieving an essential competency for public health practice.

Need to continue to build on this work

- Evaluation results of the online course are highly positive indicating a potential avenue for further development of similar courses to address other competency areas in population/public health for the workforce at large in addition to dietetic competencies.

Lessons Learned

What worked well

- There were several elements that contributed to a positive outcome in this project.
 - Having a National Advisory Committee that was well-connected to the key stakeholder groups – educators, students and practitioners – facilitated communications and “legitimized” the project.
 - Establishing Reference Groups that represented these same stakeholders and engaging them in the review process ensured that both the format and content of the course and support materials was grounded in evidence and was realistic for the practice setting.
 - Having a skilled curriculum designer enabled us to produce a very creative learning experience.
 - Having a Project Consultant whose time was dedicated to the project ensured that milestones were achieved on time and all project deliverables were met.

What was achieved

- All activities originally planned and described in the project proposal were achieved.

Challenges

- It was challenging for the curriculum designer to work with a number of key stakeholders in the development of the course content. In other situations this curriculum designer was accustomed to working with one or two advisors that provided the course content and provided feedback on the project as it was developed. In this project however, the Reference Group representatives of the educator and practitioner stakeholders were the content experts providing input. There was also feedback on the course from Reference Group stakeholders across the country. The Project Consultant managed the feedback and provided a synthesis of the input. Where feedback was inconsistent from stakeholders, the National Advisory Committee provided direction.

Learning Experiences

What would do you differently?

- The development model that engaged stakeholders throughout worked very well and would be repeated should another initiative of this nature be undertaken.
- It is recommended that one or two content experts work with a curriculum designer in the development of content to make it easier to manage that aspect of the project.

Lessons to share with others

The key informant interviews with representatives from other professional associations as well as the environmental scan of best practices in development of e-learning materials highlighted important lessons for those undertaking the development of e-learning resources and tools. These best practice/success factors are outlined in more detail elsewhere in this report but in brief they are:

- ***Sustainability*** – consider sustainability of the program/product at the outset and plan for required resources to keep the content current and maintain the technology.
 - Engaging with volunteer interest networks can be a key factor in this sustainability but institutional support (staff and financial resources) is required for long-term continuity and sustainability.
 - Facilitated online programs seem to have a higher completion rate than those that are designed strictly as self-study. While facilitation is more resource-intensive, when it comes to sustaining interest in online learning it may be worth the investment in providing some access to a real-time expert as an element of the program.
- ***Marketing and promotion*** – an integrated on-going communication strategy is needed to market and promote the product to all stakeholders, including students, educators, practitioners and employers.
- ***Capacity building*** – foster collaborative partnerships nationally, internationally and across disciplines with agencies/groups that have common objectives to yours.
- ***Accessibility and learner-focus*** – **consider potential technology barriers** with online resources since learners variable have access to the most up-to-date browsers and many have restrictions at work on accessing third-party materials.
- ***Cost and time commitment*** – time commitment to complete online modules and cost are important consideration for busy students and practitioners.
- ***Quality of evidence*** – ensure content is supported by high-quality evidence. The value of having professional development programs accredited was also seen as important depending on the intended audiences and their form of continuing professional competency.
- ***Evaluation*** – should be an essential element of all programs and learning tools. Integrate continuous quality improvement feedback mechanisms into the tools and online tools and dedicate resources to review and consider how to address feedback.
- ***Opportunities for in-person networking*** – online learning isn't for everyone and not all content lends itself to a web-based platform. It is important to continue to provide opportunities for in-person learning and networking.

Recommendations

What needs to be done now, near future, long term?

To achieve the longer-term outcomes defined in the Project Logic Model for this initiative it is recommended that the following steps be undertaken:

- Periodic targeted promotion to dietetic educators, students, interns and practitioners to remind them of the learning tools and encourage their ongoing use.
- Monitor the feedback survey results from the users of the course to determine if there are changes needed to the course to continue to make it relevant to users.
- Use the opportunity of the annual meeting of dietetic educators held in conjunction with the DC Annual Conference to keep educators engaged in assessing the course and encouraging them to use it with their students. Gather suggestions for other topics/gaps in meeting professional competencies for which further similar resources and tools could be developed.

Who needs to be involved?

- The same key stakeholders that were involved in this present project need to be engaged – educators, students, interns and practitioners in population and public health.

What supports are necessary?

- Financial and staff support to develop other resources and tools would be needed by DC to continue to undertake further work in this area.

What are gaps, needs and other areas requiring attention or work?

- Other gaps in competencies and performance indicators were identified by earlier research. A reassessment of whether these gaps still exist should be undertaken.

What are priority areas or actions

- Recognize indicators that suggest the need for health promotion related to nutrition.
- Identify goals for health promotion related to nutrition.
- Implement nutritional health promotion activities.
- Monitor progress, evaluate outcomes and adjust nutritional health promotion activities as appropriate.
- Contribute to the development and evaluation of nutritional health promotion plans for a community or population.

Next Steps

Sharing project evaluation results

- Early results of the feedback on the online course and support tools have already been shared with the DC membership through electronic newsletters. As more evaluation data is collected once a larger number of students have completed the course and the feedback survey, results could be shared through an abstract submission for the DC annual conference and perhaps a newsletter article for the International Confederation of Dietitians.
- Previously DC has been invited to submit an article on the development of the online course and support materials to the International Society of Evidence-based Health Care published through McMaster University. This would be an excellent channel to share evaluation results on the initiative.

References

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Appendices

- Appendix I Environmental Scan of Online Learning Opportunities Focusing on Population/Public Health Nutrition Practice Competency for Identified Gaps in ICDEP**
- Appendix II Synthesis of Interviews with Key Informants from Professional Associations and Agencies Regarding Best Practices Supports for Professional Competency Development**
- Appendix III Project Logic Model to Operationalize New Integrated Competencies for Dietetic Education and Practice Related to Population/Public Health Nutrition**

Appendix I: Environmental Scan of Online Learning Opportunities Focusing on Population/Public Health Nutrition Practice Competency for Identified Gaps in ICDEP

<i>Program Title</i>	<i>Agency/URL/Date</i>	<i>Program Description</i>	<i>Objectives</i>
Community Tool Box	University of Kansas & Kansas Dept of Health http://ctb.ku.edu/en/online-courses.aspx 2011	8 Self-study non-facilitated modules with opportunity to "ask and expert" Post module assessment Certificate of completion The toolbox is broadly focused on population/public health but readily applies to the specific discipline of dietetics. Module 2 and Module 4 apply specifically to PIs 4.01 (n) & (p) Uses US regional case studies that ideally could be adapted with Canadian materials. Project staff indicated strong interest in collaboration with our initiative including creating a French version.	MODULE 2: Define community health assessment; Define the geographic boundaries of the assessment; Compile and describe evidence about local needs MODULE 4: Use criteria & processes for prioritizing issues to be addressed; Identify factors affecting community problems & goals
Critical Appraisal of Intervention Studies	National Collaborating Centre on Methods & Tools http://www.nccmt.ca/learningcentre/index.php#main.html January 2011	Self-directed learning module. Supports skill development in applying the criteria for critical appraisal of an intervention study. Uses an interactive worksheet to guide the critical review of an intervention study. Certificate of completion.	Learn how to critically appraise a primary prevention study; Practice critical appraisal skills using a realistic health scenario
Health Promotion 101	Ontario Health Promotion Resource System (OHPRS) - The Health Communications Unit http://www.thcu.ca/hp101/eng/about_course.cfm Undated Note: Other provinces (e.g. British Columbia – Public Health 101 & Nova Scotia) have versions of this resource but not accessible as online interactive tools.	Self-study 9 module introductory course on health promotion; Includes static web pages on content, case studies, checklists, reading/resources, reflective exercises, glossary of terms	Explain the major definitions and concepts of health promotion; Relate & apply the major models & theories underpinning the field of health promotion in Canada; Relate some of the key milestones that led to the development of the field of health promotion in Canada; Put into practice key strategies to take action on the health issues affecting individuals & communities; Provide concrete examples of how the features and values of health promotion, including the

<i>Program Title</i>	<i>Agency/URL/Date</i>	<i>Program Description</i>	<i>Objectives</i>
			Ottawa Charter, manifest themselves in programs & services of various types, policy development & implementation of self-care, mutual support & other HP approaches; Identify & describe several implications for their current practice of concepts presented in the course; Identify future learning for health promotion practice
Improving the Health of Young Canadians	Canadian Population Health Initiative (CPHI) https://learning.cihi.ca/users/index.aspx (Undated)	Self-study tutorial available in English & French This course presents analyses from the most recent cycle of the National Longitudinal Survey of Children and Youth (NLSCY) and the Canadian Community Health Survey (CCHS). The tutorial highlights research relevant to understanding adolescent health and development, exploring the association between positive assets in adolescents' social environments and their health behaviours and outcomes. Intended for those with an interest in promoting healthy transitions to adulthood in various contexts, including schools, community organizations and facilities, regional health authorities, and public health units. <i>Some difficulty accessing & loading this resource.</i>	Describe some of what is known about adolescent health and behaviour from the perspective of positive assets; Understand the results of analysis of latest available data from the National Longitudinal Survey of Children and Youth; Highlight the research upon which the initiatives to build positive assets and promote healthy transitions to adulthood are based.
Introduction to Evidence-Informed Decision Making	National Collaborating Centre on Methods & Tools http://www.nccmt.ca/learningcentre/index.php#main.html May 2010	Self-directed learning module. Designed to support public health professionals to find and use high quality, relevant research to inform practice decisions. Includes a pre-test, three sections, and one final test. Certificate of completion.	Learn to construct a relevant answerable question; Learn where to look for high quality relevant research; Review a source of research and decide if the findings are relevant to a realistic scenario; Practice using a tool that can help to integrate research evidence with other important factors that contribute to decision-making; Learn about factors that need to be included in a plan for implementing and evaluating your decision

<i>Program Title</i>	<i>Agency/URL/Date</i>	<i>Program Description</i>	<i>Objectives</i>
Introduction to Population Health	Canadian Population Health Initiative (CPHIP) https://learning.cihi.ca/users/index.aspx Undated	Self-study module available in English and French designed to provide basic instruction on population health issues for those looking for an introduction to the field. The course provides an overview of the elements of population health, including definitions, key concepts and goals. In particular, the presentation highlights the concept of the determinants of health, which are key elements of a population health perspective.	Recognize some developments in the history of population health in Canada; Explain the basic concepts of population health; Explain the key social determinants of health; Identify some key types of evidence that may support a population health approach
Let's Start a Conversation On Health - Social Determinants of Health - Video & User's Guide	Sudbury Health http://www.sdhu.com/content/healthy_living/doc.asp?folder=3225&parent=3225&lang=0&doc=11749#video 2011	Video and User Guide. Developed as tools to further engage individuals & organizations from all sectors in achievement of healthy communities. Originally created as a resource to support public health staff, it is anticipated that other community partners including schools, social services, businesses, and community groups also find it informative & useful. Lacks learner assessment & interactivity but is a useful tool for introduction to the determinants of health.	Build understanding of the social determinants of health; Lead & participate in discussions with others
Life Course Nutrition: Maternal & Child Health Strategies in Public Health	TRAIN National - A collaboration of the US Public Health Foundation & CDC https://www.train.org/DesktopModules/eLearning/CourseDetails/CourseDetailsForm.aspx?courseId=1031313 December 30, 2011	Self-study This HTML-based online module has interactive exercises (Flash-based). While US focus and specific to Maternal & Child Health Strategies in Public Health, the principles of the course apply generally to situational analysis and related program planning	Describe the role of maternal and child health (MCH) nutrition in the lifelong health of the population; Access resources for assessment, assurance, and policy development for MCH nutrition; Identify ways to integrate MCH nutrition within state and local public health agencies; Apply the principles of the life course framework for population-based public health actions and initiatives.

<i>Program Title</i>	<i>Agency/URL/Date</i>	<i>Program Description</i>	<i>Objectives</i>
Online Health Program Planner 2.0 - Step 2: Conduct a situational assessment	The Health Communication Unit - Public Health Ontario http://www.thcu.ca/ohpp/view.cfm?stepID=2 2010	<p>Self-study</p> <p>The Online Health Planner leads the learner through a 6-step process of program planning. Step 2 focuses on doing a situational analysis, beginning with the development of a data-gathering plan. Instructions and worksheets are provided on the types of data needed, as well as the methods and sources to access the data. This data-gathering plan expands on the draft work plan developed in Step 1 of the planning process.</p> <p>The data-gathering plan is guided by research questions. These research questions are tailored versions of three broad, generic questions that must be answered as a part of situational assessment:</p> <p>What is the situation? (trends, public perception, stakeholder concerns, etc.)</p> <p>What is making the situation better and what is making it worse?</p> <p>What possible actions can you take to deal with the situation?</p> <p>A teaching slide show is a supporting resource for this planning step.</p> <p>This resource is more suitable for a more advanced learner (i.e. graduate level) rather than entry level. Need to complete previous modules and steps in the Program Planner in order to apply this section.</p>	<p>Understand & appreciate the purpose of situational assessments; Be familiar with the methods used to assess community health needs & assets;</p> <p>Appreciate the strengths & limitations of these methods;</p> <p>Be able to interpret & apply situational assessment results for program planning & priority setting purposes;</p> <p>Communicate the findings of a situational assessment to relevant stakeholders</p>

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Prevention & Population Health Teaching Modules	<p>Association for Prevention Teaching & Research [APTR]; Developed by Brody School of Medicine, Department of Public Health at East Carolina University through the APTR Initiative in collaboration with Duke University School of Medicine School of Public Health, University at Albany, State University of New York. This project is funded through a cooperative agreement with the Centers for Disease Control and Prevention. http://www.aptrweb.org/?page=pophealthmodules Undated</p>	<p>This set of 7 teaching modules include ready to use material aimed at improving clinical and population-based prevention skills for all health professions students. All seven modules feature presentations produced by subject matter experts, supplemental materials to facilitate small group learning, and a bibliography of key resources.</p> <p>This curriculum is designed to be easily integrated into existing curricula. Faculty can choose the materials that best fit with their teaching style and needs, from recorded PowerPoint presentations that students can view online, to population health cases which can be used in small group settings.</p>	<p>Module 1: Determinants of Health: Discuss how to assess the health status of populations using available data (e.g. public health surveillance data, vital statistics, registries, surveys, electronic health records); Describe the distribution of morbidity; Discuss the role of socioeconomic environmental, cultural factors and other population-level determinants of health on the health status and health care of individuals and populations; Identify the leading causes of death</p> <p>Module 6: Research to Practice: Explain community needs, assets, resources, and the social determinants of health, in order to work effectively with communities to address health problems and improve health outcomes; Discuss how to translate and disseminate research findings into effective healthcare practices</p>
Primer on Population Health	<p>Association of Faculties of Medicine of Canada (AFMC) http://phprimer.afmc.ca/inner/primer_contents Undated</p>	<p>A virtual textbook available in English and French for clinicians on public health concepts. This Primer is tailored for medical students, students of other healthcare professions and all health professionals interested in improving their knowledge of population health concepts. Covering the population health objectives of the Medical Council of Canada, the Primer presents the population perspective of health that is relevant to clinical practice and illustrates how public health concepts can be used in clinical situations.</p>	<p>Medical Council of Canada Objectives: Concepts of Health & Its Determinants; Assessing & Measuring Health Status at the Population Health Level; Interventions at the Population Health Level; Outbreak Management; Environment; Health of Special Populations</p>

<i>Program Title</i>	<i>Agency/URL/Date</i>	<i>Program Description</i>	<i>Objectives</i>
Promoting Healthy Weights in Canada	CPHI https://learning.cihi.ca/users/index.aspx Undated	Self-study tutorial available in English and French. The tutorial focuses on the complex issue of promoting healthy weights and treating obesity involving a variety of factors including genetics and personal choices as well as our social, cultural, physical and economic environments. This course looks at the features of the environments in which we live, learn, work and play that make it easier - or harder - for us as Canadians to make choices that promote healthy weights.	Describe Canadian trends in overweight and obesity since the 1980s; Understand the links between home, school, work and community environments and the promotion of healthy weights; Describe variations in the prevalence of overweight and obesity by geographic location and mode of transport, and differences in levels of physical activity and fruit and vegetable consumption by income; Summarize what is known about effective programs for settings-based promotion of healthy weights.
Public Health in Community Settings: An Introduction	Open University Learning. UK http://www.open.edu/openlearn/body-mind/health/public-health/public-health-community-settings-introduction/content-section Dec 2012	Self-learning guide This self-study unit is adapted from Promoting Public Health. This unit puts forward some ideas about how to build an initial picture of a community, how to research a community, get to know it, both formally and informally and work constructively in partnership with it. Includes practical exercises, questions and feedback. Uses UK examples.	Demonstrate knowledge and understanding of: Factors to consider when planning to research your chosen community; Approaches that will facilitate engagement at community level; Skills required to work constructively with communities.
Quantitative Research Design 101: Addressing Practice-based Issues in Public Health	National Collaborating Centre on Methods & Tools www.nccmt.ca/learningcentre July 2012	Self-directed learning module with interactivities designed support practice-based decision-making in public health. Certificate of completion.	Learn to distinguish between questions of effectiveness and causation; Learn the most common research designs to answer your questions

<i>Program Title</i>	<i>Agency/URL/Date</i>	<i>Program Description</i>	<i>Objectives</i>
Reducing Gaps in Health: A Focus on Socio-Economic Status in Urban Canada	Canadian Population Health Initiative (CPHI) https://learning.cihi.ca/users/index.aspx Undated	This resource is a recording of a discussion-based web conference that will provide learners with a broad overview of the links between area-level socio-economic status and health in Canadian census metropolitan areas (CMAs). Learners will be introduced to an index of multiple deprivations developed by the Institut national de santé publique du Québec (INSPQ) and will gain insight into the issues and opportunities for action stemming from the CPHI report Reducing Gaps in Health: A Focus on Socio-Economic Status in Urban Canada. <i>Some difficulty encountered in launching this module.</i>	Describe the relationship between area-level socio-economic inequalities and health in urban Canada; Understand the INSPQ's Deprivation Index and its relevance to health planning; Understand the nature of the socio-economic gradient in health.
Reducing Gaps in Health: Using Area-based Socio-economic Measures to Explore Population Health	Canadian Public Health Initiative (CPHI) https://learning.cihi.ca/users/index.aspx Undated 2010	Self-study tutorial available in English and French Explores how health and socio-economic data can be used together to better understand differences in health among areas with different population characteristics. With more knowledge of socio-economic status groups, their geographic distribution across Canadian municipalities and differences in health utilization according to socio-economic status, learners can then target their approaches to health planning, promotion and prevention and act to reduce disparities across their respective jurisdictions.	Define area-based socio-economic measure; Understand why area-based socio-economic measures are used to examine disparities in health; Identify opportunities for using area-based measures in monitoring disparities in health or health service use.
Searching for Research Evidence in Public Health	National Collaborating Centre on Methods & Tools www.nccmt.ca/learningcentre July 2013	Self-directed learning module with interactivities designed to introduce the learner to time-saving techniques to find public health research evidence to inform decisions.	Practice developing a comprehensive, answerable question; Learn which sources of information are most suitable for answering a question; Practice efficient and effective search strategies for different information sources; Apply the 6S pyramid.

<i>Program Title</i>	<i>Agency/URL/Date</i>	<i>Program Description</i>	<i>Objectives</i>
Setting Priorities - Strategic Techniques for Groups	The Health Communication Unit - Public Health Ontario http://www.thcu.ca/infoandresources/resource_display.cfm?search=%20search&res_subtopicid=32 http://www.thcu.ca/videos/webcasts.htm 2009	Archived webinar - PowerPoint & Audio	To increase participant awareness, comfort & skill about using structured, strategic group processes for setting priorities
Skills for Health Promotion Tool Kit	The Health Communication Unit; http://www.thcu.ca/infoandresources/resource_display.cfm?res_topicID=4 http://www.thcu.ca/resource_db/pubs/164711338.pdf	A toolkit comprised of PowerPoint slides, activities, worksheets and tools for program planning based on a two-day workshop. The in-person workshop is available only to Ontario health professionals on request. Elements of the toolkit are suitable for developing self-study modules or classroom group activities.	To increase participant awareness, comfort & skill about using structured, strategic group processes for setting priorities
Skills Online - Skills Enhancement for Public Health	Public Health Agency of Canada http://www.phac-aspc.gc.ca/php-psp/ccph-cesp/descriptions-eng.php 2012	Self-study and facilitated series of online modules available in English and French. Modules 1: Introduction to Public Health & 2: Introduction to Literature Searching are self-study and offered free of charge. Facilitated modules are offered for a fee over an eight-week period during fall, winter and spring sessions. Interdisciplinary teams from across the country are connected through interactive discussion forums and guided by an expert, trained facilitator. The competency-based modules are specific to Canadian public health practice, and are designed using adult learning principles;	Module I: Introduction to Public Health Describe the purpose and basic functions of public health and give examples of public health in action; Identify who is involved in public health—both within the formal public health system and in the community; Describe some of the important contributions public health has made and continues to make to improve the health of people and communities; Identify how public health operates at the national, provincial/territorial and regional/ local levels and how it relates to medical services; Understand the meaning of some key terms used in public health; Access additional resources and information

<i>Program Title</i>	<i>Agency/URL/Date</i>	<i>Program Description</i>	<i>Objectives</i>
		<p>Uses a variety of audio/visuals including videos, graphics, text; summary quizzes; module evaluation; completion certificate. Facilitated module topics:</p> <p>Basic Epidemiological Concepts; Measurement of Health Status; Epidemiological Methods; Outbreak Investigation and Management; Epidemiology of Chronic Disease; Applied Epidemiology - Injuries; Introduction to Surveillance; Communicating Data Effectively; Introduction to Biostatistics; Evidence-based Public Health Practice</p>	<p>Module 2: Introduction to Literature Searching</p> <p>Have an understanding of “evidence-based public health”;</p> <p>Be familiar with different public health information sources and how to search them;</p> <p>Be able to develop an effective search question and basic search strategy;</p> <p>Be able to conduct a basic literature search using a bibliographic database; Have a basic understanding of quality assessment and management of research findings</p>

Appendix II: Synthesis of Interviews with Key Informants from Professional Associations and Agencies Regarding Best Practices Supports for Professional Competency Development

Organization/Agency/Contact	Professional Competency Supports	Development Process
Association of Faculties of Medicine of Canada [AFMC] – represents Canada’s 17 faculties of medicine and is the voice of academic medicine in Canada. Represents & supports the mandates of research, medication education, & clinical care with social accountability. http://www.afmc.ca/ Contact: Barbie Shore, Project Manager Bshore@afmc.ca [Sept 13, 2013}	Medical Council of Canada’s objectives (i.e. standards) in population/public health – a review & revision of objectives to strengthen their content & ensure these competencies were included in the accreditation standards	AFMC led a national review in conjunction with US partners to put this foundational piece into place.
	AFMC Primer on Population Health www.afmc-phprimer.ca - Available in English & French, presents the population health perspective relevant to clinical practice. Illustrates how public health concepts can be used in clinical situations. Tailored for medical students, students in other health care professions & in all other healthcare professions interest in improving their knowledge of population health.	Initial funding from the PHAC designed to address the objectives of the Medical Council of Canada (MCC). Identified as a need by the Public Health Educators Network [PHEN]. Consulted with universities, public health physicians & learners to identify content. Written by two editors, then reviewed by learners, public health physicians and other subject matter experts; then translated in French.
	Canadian Healthcare Education Commons [CHEC] https://chec-cesc.afmc.ca/ - an online community designed to support collaborative learning & teaching for the health professions.	PHEN established an online e-community where faculty & students can interact, share and create resources in a secure & simple online environment. The site is free to join & use. It feature resource collections of Virtual Patient cases & public health learning objects.
	Environmental Scan of Best Practices in Public Health Undergraduate Medical Education http://www.afmc.ca/social-public-health-e.php	Funding from the PHAC - included literature review, key informant interviews with educators nationally and internationally as guidance for faculties. Key findings summarized in a series of reports on the AFMC website.
	AFMC Public Health Learning Tools Challenge http://www.afmc.ca/pdf/Call_for_Proposals_Public_Health_Learning_Tools_Challenge_EN.PDF - for students & residence in all health professions in Canada to create new learning tools on public/population health topics - a competition designed to build excitement among students in influencing population health for the next generation of health professionals. The Challenge will reward excellent through financial awards up to \$2500 with a total of 13 awards available.	Funding from PHAC over 2 years – under the Public Health Educators Network, formed a working group on learning tools

<i>Organization/Agency/Contact</i>	<i>Professional Competency Supports</i>	<i>Development Process</i>
	Public Health Interest Group (PHIG) http://www.afmc.ca/social-public-health-e.php	AFMC supports the development of PHIG in each of the medical schools across Canada. Students can apply to for seed funding to initiate the interest group. “How-to” document available to support the interest group development http://www.afmc.ca/pdf/Suggestions%20for%20creating%20a%20Public%20Health%20Interest%20Group%20-%20Eng..pdf
Canadian Association of Continuing Health Education (CACHE) - a forum for knowledge exchange and collaboration among healthcare stakeholders for professional and systems development to improve patient outcomes. http://www.cachecanada.org/en/ Contact: Ella Croteau, President CACHE & Registrar, College of Pharmacists of Ontario della.croteau@gmail.com [Aug 7, 2013]	Alliance for Continuing Medical Education – developed 48 individual competencies organized into eight general Competency Areas for CME Professionals: 1. Adult / Organizational Learning Principles 2. Educational Intervention 3. Systems Thinking 4. Partnering 5. Leadership 6. Administration Management 7. Self-Assessment & Lifelong Learning	The development of competencies and performance indicators used a wide consultative and validation process described at: http://www.acehp.org/iMIS15/aCME/PDFs/Competencies_Analysis_Report_REV_090909.pdf?&WebsiteKey=0844fe0e-0203-407c-98d2-9777dd5428a2&hkey=1fdf55f7-1d5c-4298-84af-b9b77c849025
	A wide range of tools & resources in support of professional development in CME are hosted on the CACHE website. Accessible to CACHE members at http://www.accme.org/news-publications/publications/tools	Tools & resources are collection of materials from other member professional organizations rather than tools developed specifically by CACHE.
	Open Access Library - Retrieve articles from open access publications related to continuing health education http://www.cachecanada.org/en/open-access-library	Position Papers from CME/CHE CACHE/ACEMC Documents Effectiveness of Continuing Health Education
Canadian Institute of Public Health Inspectors (CIPHI) – represents & unites Environmental Public Health professionals Canada-wide. Advances the profession & field of Environmental Public Health through certification, advocacy, & professional competencies, thereby protecting the health of all Canadians http://www.ciphi.ca/home Contact: Gary O’Toole – President of CIPHI Gary.OToole@gov.ns.ca [July 10, 2013]	Certification Board ensures that Environmental Health Officer graduates attain a certain level of academic preparedness based on a set of 519 learning objectives, including a 12-week (minimum) practicum. No support is provided by CIPHI to students/academic instructors in support of competencies. Continuing Professional Competency Program http://www.ciphi.ca/files/documents/cpc/fullguide.pdf – Focus is on supporting certified practitioners to maintain professional competency.	N/A NA

Organization/Agency/Contact	Professional Competency Supports	Development Process
	Members encouraged to access programs available through British Columbia Institute of Technology (BCIT) and Skills Online program from PHAC	
	Gastroenteritis at a Staff Luncheon in Hamilton, Ontario – a five-step self-paced online case study http://www.ciphi.ca/hamilton/Content/content/01_Intro/intro_07.html	Unknown
<p>Canadian Physiotherapist Association - in partnership with provincial and territorial branches and practice divisions, CPA enables members to learn, share knowledge and enhance practice. CPA provides resources, education, ideas and advocacy to enable our professional community to better serve Canadians. CPA's purpose is to advance the profession of physiotherapy in order to improve the health of Canadians. http://www.physiotherapy.ca/Home</p> <p>Contact: Chett Bradley, Manager, Educational Programs CBradley@physiotherapy.ca [Sept 3, 2013]</p> <p>Alberta Physiotherapy College & Association Audrey Lowe – Competence & Professional Practice alowe@physiotherapyalberta.ca [Aug 20, 2013] Iain Muir, Director Professional Practice imuir@physiotherapyalberta.ca [Aug 20, 2013]</p>	<p>Webinars - Aimed at clinicians who want to keep updated on the latest hot topics in clinical practice.</p> <p>Online Practice Management Workshops - These interactive, online, workshops are designed to equip physiotherapy practice owners and managers with the necessary business skills to ensure their practices grow and prosper.</p>	<p>Topics identified for all PD programs through Division representatives who keep up to date on current & emerging issues affecting the professional & pertinent to maintaining professional competency. Certificate of participation (not competency) provided.</p> <p>Held every 2 weeks between Sept & June. Presented by an expert on the topic, each session includes a presentation, Q&A period, and resources to help practitioners stay on top of the latest issues in clinical practice. Both live & archived topics accessible through the CPA website.</p> <p>Each 90-minute workshop will explore a core business concept or skill. Workshops are held online and will allow participants an opportunity to interact with the instructor and fellow participants and may include pre-reading or preparatory exercises to enhance the learning experience – allowing participants an opportunity to practice concepts before applying them to their facilities.</p>

<i>Organization/Agency/Contact</i>	<i>Professional Competency Supports</i>	<i>Development Process</i>
	Translating Outcome Measures – weekly online workshops.	Each 90-minute workshop will take a focused look at a single outcome measure, exploring the state of evidence for its usage and its clinical application. Workshops are held online, allowing front-line clinicians to witness cases in action and to critically reflect on the application of the measure in their own practice. Sessions are optimized for therapists who have some knowledge or prior experience with the measure being discussed.
	PD Library - These archived webinars are exclusively available to CPA members at no charge due to sponsorship.	
	Online Courses - four-part online course, reviews the core principles and main technologies behind five EPAs in common usage today, and discuss the state of evidence and best practices when incorporating these modalities into your treatment plans. Applying Evidence to Practice - a two-part self-study program of workshops designed for physiotherapists working in public and private clinical practice settings who want to apply evidence-informed healthcare principles to their practice.	Live webinar presentation Q&A with instructor Workshop reference list Clinical case discussions Course reading pack Developed in collaboration with Cochrane Canada; each part of the program includes three online, pre-recorded 90-minute sessions exploring the steps for finding and making informed effective use of the best evidence for clinical physiotherapy decisions.
	In-Person Courses – variable topics, location & timing	Two-day course presented by a topical expert;
	Specialty Certification - The CPA Clinical Specialty Program is a self-directed certification program to recognize physiotherapists who have demonstrated advanced clinical competence, leadership, continuing professional development and involvement in research. The program consists of a written portfolio submission and oral presentation that is assessed by a 3-person panel of peers.	The CPA Clinical Specialty Program is available to all registered physiotherapists, regardless of practice setting or location. Candidates must meet 4 program requirements to receive the designation: <ul style="list-style-type: none">• Advanced Clinical Competence• Professional Leadership• Professional Development Activities• Involvement in Research Candidates are assigned a 3-person assessor panel. 2 of the assessors are from the candidate's practice area and the 3rd assessor is from an outside practice area.

<i>Organization/Agency/Contact</i>	<i>Professional Competency Supports</i>	<i>Development Process</i>
<p>Canadian Public Health Association - is the national, independent, not-for-profit, voluntary association representing public health in Canada. CPHA's members believe in universal and equitable access to the basic conditions that are necessary to achieve health for all Canadians.</p> <p>Contact: Greg Penney, Director National Programs gpenney@cpha.ca [Aug 20, 2013]</p>	<p>Introduction to New HIV Prevention Technologies – basic self-directed online training package focusing on the knowledge and skills defined in the professional competencies. http://www.cpha.ca/en/portals/hiv/training.aspx</p>	<p>Identified the need for training through an online survey & mapped the course to the professional competencies. Includes a pretest, post test & certificate of completion.</p> <p>Funded by the Public Health Agency of Canada (PHAC) and Canadian HIV Vaccine Initiative (CHVI) to undertake a project entitled, Preparing the Canadian Public Health Community for New HIV Prevention Technologies.</p>
	<p>A Tool for Strengthening Chronic Disease prevention & Management – “How-To” Guide & Case Studies: presents eight Critical Success Factors for strengthening chronic disease prevention and management, with guiding questions for each. http://www.cpha.ca/en/portals/cd.aspx</p>	<p>In 2007/2008, CPHA worked with four health regions across the country to pilot a new chronic disease planning tool to help bring a comprehensive approach into regional dialogue and planning. Funded by the PHAC.</p>
	<p>Mapping existing training offerings to the competencies – e.g. PHAC Skills Online Course has an Epidemiology Module addressing that competency so rather than creating our own courses, we link members to those that exist.</p>	
	<p>Educational Portals on Health Literacy, Infectious Diseases & Substance Abuse & Addictions – tools & resources along with links to other information sources on these topics</p>	

Organization/Agency/Contact	Professional Competency Supports	Development Process
<p>Community Health Nurses of Canada (CHNC) - an associate member of the Canadian Nurses Association (CNA), is a voluntary association of community health nurses consisting of community health nurses and provincial/territorial community health nursing interest groups.</p> <p>CHNC provides a unified national voice to represent and promote community health nursing and the health of communities.</p> <p>CHNC provides a forum for community health nurses across Canada to share issues of mutual concern and to communicate is a leader in the development of discipline-specific standards of practice, core competencies, and a community health nursing certification process.</p> <p>Contacts: Ruth Schofield, Past President of CHNC; Nurse Educator – McMaster University & Western University [Aug 8, 2013]</p> <p>Elizabeth (Liz) Diem, Community Nursing Education Consultant, Community Health Nurses Canada lizdiem@chnresources.org [July 2, 2013]</p> <p>Marie Dietrich Leurer, Assistant Professor, College of Nursing, University of Saskatchewan; Research Associate, Regina Qu'Appelle Health Region marie.dietrichleurer@usask.ca [Aug 27, 2013]</p> <p>Caroline Ball, Executive Director East York & East Toronto Family Resource Organization (EYET); originally with City of Hamilton Public Health Services carolineball@eyetfrp.ca [Aug 12, 2013]</p> <p>Yvette LaForet-Fliesser, Community & Public Health Consultant yvettelaforetfliesser@gmail.com [June 25, 2013]</p>	<p>Community Health Nursing Standards of Practice Toolkit http://www.chnc.ca/documents/Standards%20Toolkit/Published_Toolkit_Binder.pdf - a component of knowledge translation strategies for dissemination & integration to support the uptake of professional competencies. Main focus is on practitioners in practice but there is also a section for educational institutions.</p>	<p>Literature review to support the development of Standards of Practice http://www.chnc.ca/documents/ALitReviewUndertakentoInformRevisiontotheCdnCHNStdsofPracticeMarch2011.pdf</p> <p>Workshops conducted to in person & some web-based, video events. Through these events the organizers collected practice examples or stories on how they do their work in the community. The used these stories to show how their work related to the Standards of Practice and to bring the Standards “to life.”</p>
	<p>National learning needs assessment with respect to Standards of Practice – identified different needs in public health compared with home health nurses. Evaluation & advocacy at the national level were two of the major gaps identified. These gaps have been communicated to faculty in educational institutions & shared with PHAC. Existing tools & supports from other agencies (PHAC, NCCMT, NCCDH, THCU – OPH) as outline below recommended to full gaps. Formal supports provided.</p>	<p>CHNC was a participant in a strategic planning meeting with PHAC and topics of advocacy, evaluation & community development were put forward.</p>
	<p>Blueprint for Action for Community Health Nursing in Canada - a outlines a national framework and action plan for the current and future development of community health nursing in Canada including education & training needs for current and future practitioners http://www.chnc.ca/documents/2011March30Blueprint_Final.pdf</p>	<p>Developed in collaboration by CHNC and its Board of Directors; the CHNC Political Action and Advocacy Standing Committee; National Partner Organizations; Project Management Team and funding from PHAC.</p>
	<p>Community Health Nurses website - http://www.chnresources.org/node/100 for knowledge exchange & access to online resources.</p>	<p>Users can access learning activities and participate in a discussion forum for mutual support.</p>

Organization/Agency/Contact	Professional Competency Supports	Development Process
	<p>Guidelines for Quality Community Health Nursing clinical placements that are now integrated into accreditation standards http://chnc.ca/documents/CPGuidelinesFinalMarch.pdf</p> <p>Entry-level competencies for public nursing – example of the type of work being done to support students.</p> <p>PHAC Online Skills Program has been recommended for addressing the identified gap of lack of faculty with experience at the community health level.</p> <p>Health Promotion Series of ongoing workshops provided nationally to support certification of members</p> <p>Public Health Ontario- The Health Communication Unit resources; National Collaborating Centre on Methods & Tools and National Collaborating Centre on Determinants of Health</p>	<p>Developed in collaboration with PHAC & Canadian Association of Schools of Nursing (CASN).</p> <p>Work in progress building on the competencies that are in place.</p> <p>Developed by PHAC using subject-matter experts.</p> <p>Developed in partnership with Community Health Nurses Initiative Group (CHNIG) and the Registered Nurses Association of Ontario (RNAO).</p> <p>Developed by THCU, NCCMT & NCCDH</p>
	<p>Integration & the Use of Core Competencies in Public Health in Canada. Results of a Pan-Canadian Scan. Jan 2010. http://www.hamilton.ca/NR/rdonlyres/8246C4AA-B82B-4DA3-939F-D47FC45B78F7/0/2009PanCanadianCCEScanfinalreport.pdf Learning needs identified included: - preferred learning styles - individual self-directed learning - problem-based learning in a group setting: people felt they learned better in this environment - not interested in topical workshops - credentialed courses preferred rather than one-of training events. From the results of the needs assessment a practical tool kit with a priority for managers to develop skills in performance management, an organizational priority.</p>	<p>National environmental scan conducted by City of Hamilton, Public Health Services was to develop a point-in-time snapshot of the Core Competencies efforts currently underway or emerging within local, regional, provincial and territorial jurisdictions across Canada. Administered to 151 public health organizations across Canada. The second component engaged key informants identified from the survey respondent sample in a telephone interview to further explore the results of the survey with a skilled interviewer. A total of 60 respondents, representing 58 public health organizations completed the survey and 9 key informants were engaged in telephone interviews.</p> <p>Continuous improvement tool kit developed as an electronic tool.</p>
	<p>Robinson Vollman, A. (2012). Canadian Community as Partners – interdisciplinary text with excellent section on community assessment, program planning & evaluation. Stamler, LL & Yui, L – Community Health Nursing.</p> <p>Diem, E & Moyer, A – Community Health Nursing Projects – Making A Difference. – CHPT 3 focuses on community needs assessment.</p>	<p>Written by expert authors</p> <p>A second edition e-book is being planned to make this text more accessible to students.</p>

<i>Organization/Agency/Contact</i>	<i>Professional Competency Supports</i>	<i>Development Process</i>
<p>University of Kansas Work Group for Community Health & Development Mission is research, teaching & public service in community health & development. Works collaboratively with groups at the local, national & international levels on research, capacity building and training to influence population health outcomes focusing on chronic disease, reducing health disparity, improving healthy nutrition etc. Contact: Christina Holt – Associate Director for Community Tool Box Services http://ctb.ku.edu/en/default.aspx</p> <p>Contact: Christina Holt chh@ku.edu [Sept 3, 2013]</p>	<p>Community Tool Box - a global self-paced online interactive, modular resource based at the University of Kansas for free information on essential skills for building healthy communities, offering more than 7000 pages of practical guidance in creating change and improvement. The CTB is part of the national TRAIN program affiliated with CDC. In addition to the online format the unit provides in-person workshops for community groups.</p>	<p>Developed by researchers & practitioners under the leadership of the University of Kansas - workgroup for Community Health and Development. Originally developed over 20 years ago, the CTB has continued to evolve as a dynamic resource freely accessible to practitioners. Designed around 16 core competencies including community assessment, strategic planning, capacity building and evaluation.</p> <p>Currently materials are available in English but they have a priority to make them available in other languages including French and would be interested in a collaboration with Canada for both translation as well as adapting case studies to a Canadian context.</p>
<p>Continuing Education & Outreach School of Population/Public Health University of British Columbia - delivers professional development opportunities for health professionals with a commitment to maintaining and enhancing professional competence. It provides a venue for communicating research findings and teaching best practices. It also creates an opportunity to network with researchers and other professionals. Our community of learners work in diverse organizations and have varied backgrounds and experience. Our courses are recognized by professional organizations as providing educational value through the granting of certification maintenance points.</p> <p>http://spph.ubc.ca/continuing-education/</p> <p>Contact: Lydia Ma – Director, Continuing Education & Outreach lydia.ma@ubc.ca [Aug 8, 2013]</p>	<p>UBC Continuing Education Arm that operates alongside of the graduate program. Provides a very broad range of courses targeting health professionals in population/public health including physicians, occupational hygienists, safety professionals...etc. All courses are accredited for a certain number of professional development hours. Most courses offered face-to-face in a classroom setting.</p> <p>Air Quality Health Index – online course promoted to a range of health professionals including physicians, nurses, respiratory technicians, etc.</p> <p>UBC Grand Rounds Series in Population/Public Health – online series www.spph.ubc.ca</p>	<p>Ongoing environmental scanning to identify upcoming PD needs for various health professionals. Identifies subject experts through contacts/networks to develop and instruct the course. Course development is overseen by the Program Director.</p> <p>Funded by Health Canada</p> <p>Presented by graduate students, researchers and community-based practitioners on a wide range of topics.</p>

<i>Organization/Agency/Contact</i>	<i>Professional Competency Supports</i>	<i>Development Process</i>
<p>National Collaborating Centre on Methods & Tools – is one of 6 National Collaborating Centres for Public Health in Canada. The NCCMT provides leadership & expertise in sharing what works in public health http://www.nccmt.ca/</p> <p>Contact: Pamela Forsyth Managing Director forsyp@mcmaster.ca [Aug 27, 2013]</p>	<p>NCCMT Learning Centre – designed as a series of modules</p> <ul style="list-style-type: none"> - Introduction to evidence-Informed Decision Making - Searching for Research Evidence in Public Health - Critical Appraisal of Intervention Studies - Quantitative Research Design - Critical Appraisal of Systematic Reviews - Online Tools: Search Pyramid 	<p>Online feedback surveys for each module & certificate of completion</p>
	<p>Workshops & Events - NCCMT works to build capacity in evidence-informed decision making in public health by offering workshops and other training events across Canada.</p> <p>Facilitators from NCCMT have presented our popular interactive workshops across Canada, with more workshops planned in the coming months.</p> <p>NCCMT offers half-day and full-day workshops on topics such as <i>Evidence-Informed Decision-Making in Public Health</i>, <i>Critical Appraisal of Research Evidence</i> and <i>Organizational Change for Use of Evidence in Decision-Making</i>. See more at: www.nccmt.ca/events/index-eng.html#sthash.S6eqVMe.dpuf</p>	<p>Workshops are based on a standard offering and customized for the specific audience.</p>
	<p>Registry of Methods & Tools - The Registry is a searchable, online collection of methods (processes) and tools (instruments) for knowledge translation in public health. The Registry's goals are to help public health practitioners:</p> <ul style="list-style-type: none"> communicate new knowledge to clients and colleagues; support innovation uptake in their organization; synthesize and appraise public health related research; apply a new technique for working with community partners; and summarize relevant evidence for public health policy decisions. <p>See more at: http://www.nccmt.ca/registry/index-eng.html</p>	<p>In addition to resources evaluated & posted by NCCMT, practitioners can propose resources for consideration which are then evaluated by NCCMT using a standard criteria.</p>

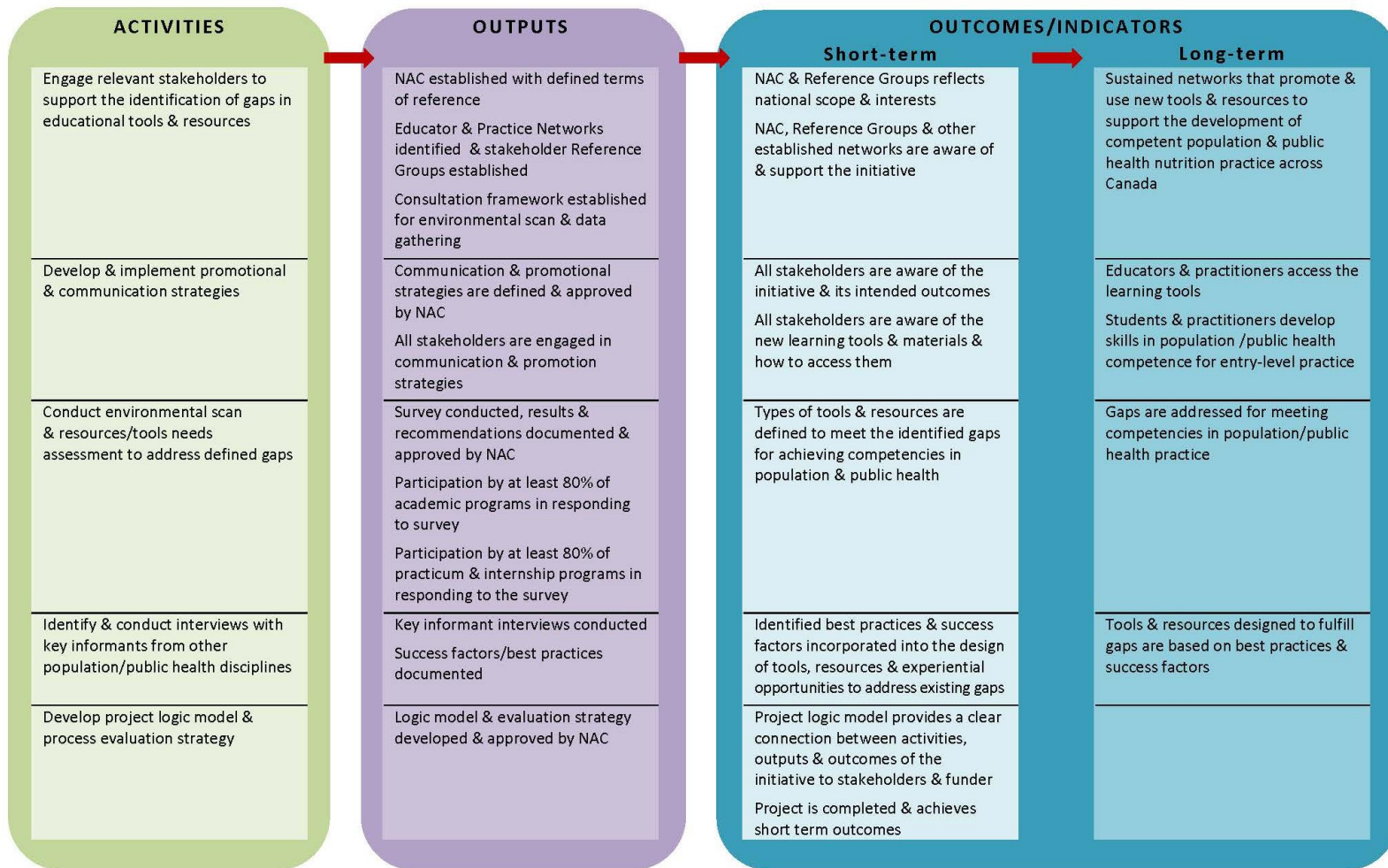
Organization/Agency/Contact	Professional Competency Supports	Development Process
<p>Public Health Agency of Canada Online Skills Program – online, competency-based modules specific to Canadian public health practice, designed using adult learning principles. http://www.phac-aspc.gc.ca/php-psp/ccph-cesp/about_so-a-propos_cd-eng.php</p> <p>Contacts: Karen MacDougall, Program & Policy Analyst; PHSCB Initiative Content Lead Karen.MacDougall@phac-aspc.gc.ca [Aug 7, 2013]</p> <p>Elizabeth Wright, Epidemiologist Elizabeth.Wright@phac-aspc.gc.ca [Aug 26, 2013]</p>	<p>PHAC Skills Online Modules – Facilitated Modules: (registration fee) - Basic Epidemiological Concepts (E&F) - Measurement of Health Status (E&F) - Outbreak Investigation & Management (E&F) - Epidemiology of Chronic Disease (E&F) - Applied Epidemiology: Injuries (E) - Introduction to Surveillance (E) - Communicating Data Effectively - Introduction to Biostatistics - Evidence-based Public Health Practice Self-Directed Modules: (free) - Introduction to Public Health in Canada - Introduction to Literature Searching Coming Soon: Self-directed Modules: - Core Competencies in PH in Canada (will include tools to support use) - International Health Regulations Facilitated Modules: - Introduction to Evaluation (E&F) - Introduction to Health Literacy (E&F) - Evidence-Based Public Health (F) - Surveillance (F) - Applied Epi Injuries - Surveys (E)</p>	<p>Developed to address an identified need through two environmental scans (2002 & 2005) to increase competency in the area of epidemiology. Pilot tested with public health professionals across the country. Practicum-based on adult learning theory.</p> <p>Now being approached by various agencies/government to develop further modules which address a broader range of topics.</p> <p>Modules are written by subject experts using a standardized template & curriculum design consultants (BCIT). All modules undergo thorough review throughout the development process. Takes approx three years to develop a module. Existing modules are reviewed & updated every 2-3 years. Facilitators undergo training specifically for the Skills Online program.</p> <p>Looking at different funding models to make the registration fee more accessible to university students (group rates); likewise for work groups within public health units/community health centres.</p>
	<p>Canadian Field Epidemiology Program – application process required; combines practical, face-to-face and online instruction. Trains public health professionals in applied epidemiology—the specialized techniques and competencies required to respond to diverse public health issues in real-life settings. Also mobilizes field epidemiologists anywhere they are needed within Canada or around the world, supporting public health organizations as they respond to urgent public health events.</p>	<p>Field epidemiologists in the program spend two years as full-time employees of PHAC, although they work and learn at placement sites within a provincial, territorial, regional or local government department or public health agency. Placement sites provide the infrastructure, opportunities and mentoring needed to meet program requirements. Participants collaborate on field investigations away from their placement site; these investigations typically last for several weeks and often involve evening and weekend work.</p>

<i>Organization/Agency/Contact</i>	<i>Professional Competency Supports</i>	<i>Development Process</i>
	<p>Finally, the program creates and nourishes a vibrant network of public health professionals to promote the sharing of ideas, insights and information.</p> <p>http://www.phac-aspc.gc.ca/php-psp/cfep-pcet/index-eng.php</p>	<p>In addition to this on-the-job experience, field epidemiologists in the program attend conferences, workshops and classroom sessions. During the program, they must complete the following nine professional experience guidelines (PEGs):</p> <ul style="list-style-type: none">- Participate in a field investigation- Analyze and interpret a dataset- Design, implement, revise or evaluate a public health surveillance system- Write and prepare a scientific article for publication- Write a public health update for a scientific audience- Write and submit an abstract for a peer-reviewed scientific conference- Give an oral presentation for a scientific audience at a seminar, workshop or conference- Communicate complex scientific concepts to a lay audience- Provide service to placement site and/or the field of public health

Appendix III: Project Logic Model to Operationalize New Integrated Competencies for Dietetic Education and Practice Related to Population/Public Health Nutrition (April 2013)

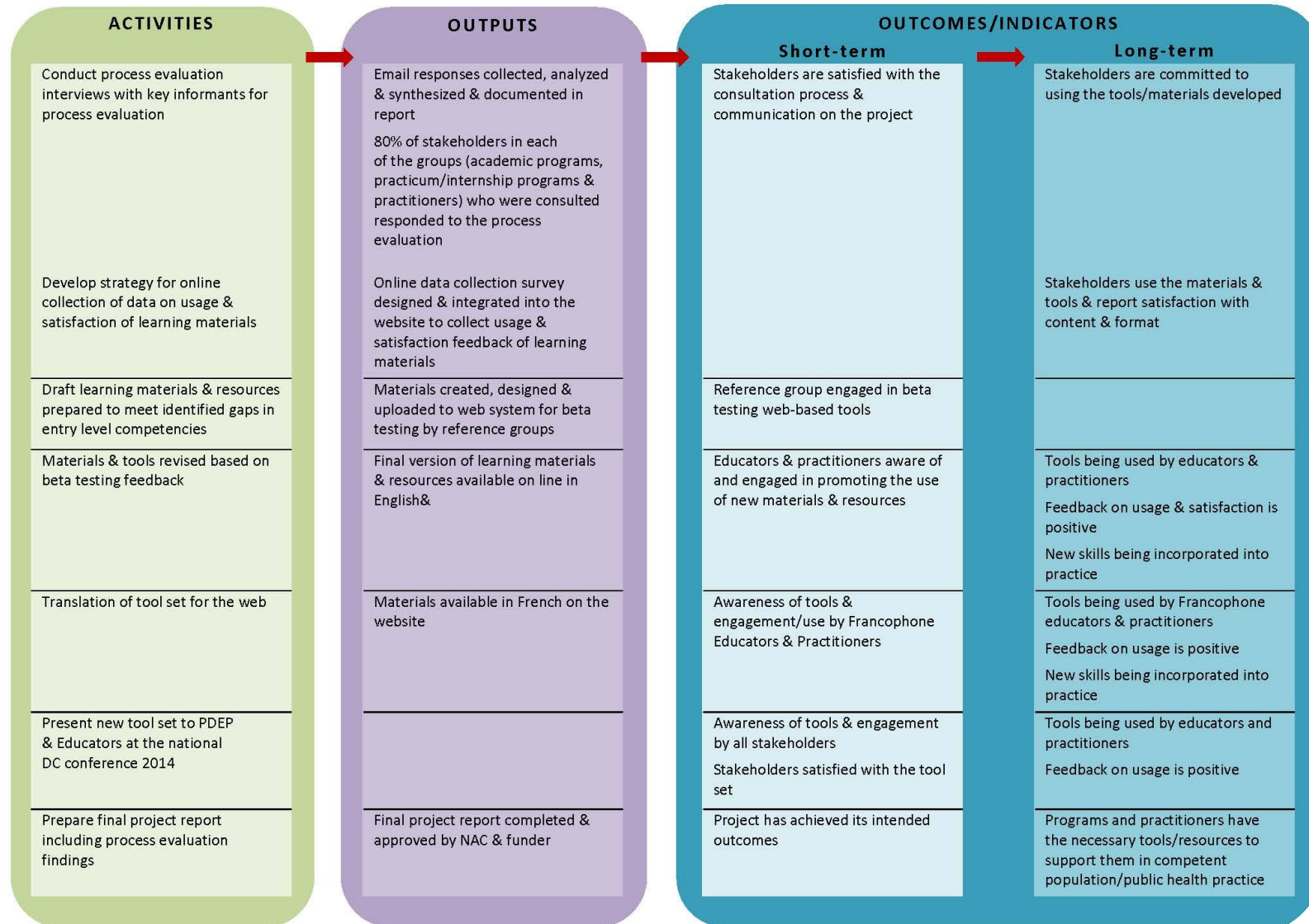
PROJECT GOAL: To develop nationally accessible & validated tools & resources that support dietetic competency attainment in population/public health

nutrition by: - Addressing defined gaps in current resources and tools for meeting new Integrated Competencies for Dietetic Education and Practice
- Meeting the education and internship/practicum program needs of students, faculty, preceptors/mentors as well as dietetic practitioners.



continued...

Project Logic Model to Operationalize New Integrated Competencies for Dietetic Education and Practice Related to Population/Public Health Nutrition (April 2013)





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