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2015-2016 CAUCE Program Award of Excellence

SUBMISSION FORM

Program Title OnCore-EnCours – Core Skills for public health practice		
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SUBMISSION C O M P O N E N T S
Please include the following in your submission:

Complete the Submission Form by March 4, 2016 and attach to your submission (in one combined PDF document)

1. An abstract (not exceeding 200 words)

2. The program description, not exceeding 6 pages (Be selective; please do not include a detailed curriculum of all the course materials)

3. A copy of the promotional material(s).

CAUCE PROGRAM AWARD OF EXCELLENCE 2015-2016

PROGRAM TITLE:

OnCore-EnCours – Core Skills for public health practice (https://oncore-encours.ca)

ABSTRACT

Public health agencies need to build foundational public health knowledge and skills in their workforce. Organizations require learning products that apply population health concepts to public health problems and are easy to implement. OnCore-EnCours was developed for front-line PH professionals of all disciplines to support the development of two of the PHAC's core competencies: PH Sciences and Assessment & Analysis. An "in-service" educational model is ideal. OnCore-EnCours is designed to address this need.

The program consists of lessons that apply the population health perspective, and use research and data to inform public health practice. OnCore-EnCours uses a blended model, integrating self-directed online learning and facilitated face-to-face learning. It is comprised of three online modules with 15 individual lessons that build core concepts using examples and interactivity. The lesson content is solidified using 13 case studies, implemented in small groups at work. In addition, printable Fact Sheets provide core content in a 'take-away' form.

OnCore has been piloted with over 100 public health professionals at three Ontario Public Health Units. Pilot testing suggests that the modules build necessary knowledge and skills. OnCore is appropriate for anyone working in public health, regardless of their years of experience.

PROGRAM OVERVIEW

The intended learning outcomes are explicitly stated in each of the 3 online modules developed:

Module 1: Understanding the Population Health Approach
- define the term "population health approaches,"
- describe the differences between population health approaches and clinical approaches,
- understand and use the concept of upstream and downstream approaches,
- describe the continuum of prevention strategies,
- describe and apply the concept of shifting the curve and its relevance to public health practice,
- describe differences between population-based strategies and targeted strategies,
- recognize the importance of using the determinants of health in your day-to-day work,
- define the terms "health inequalities" and "health inequities,"
- define the term "proportionate universalism,"
- describe Canada's health care system,
- differentiate the roles of public health and primary health care,
- distinguish between population-based prevention and clinical prevention
- develop skills related to applying the determinants of health to public health problems.

Module 2: Measures Used to Understand the Health of Populations
- describe and use examples as to how person, place, and time can be used to identify and understand public health problems,
- describe how epidemiology can be used to support public health decision-making,
- define and interpret measures of central tendency: mean, median, and mode,
- define and interpret common measures of frequency: counts, ratios, proportions, and rates,
- apply basic measures to public health problems,
- define the terms "crude rate," "specific rate," "standardized rate," "incidence rate," and "prevalence rate,"
- describe how different rates are used in public health practice,
- interpret data using basic measures including: measures of central tendency (means and medians), measures of frequency (proportions, ratios, and rates), crude and age-standardized rates; and confidence intervals,
- define the terms "sample statistic," "population parameter," and "confidence interval;"
- interpret confidence intervals for means, proportions, and rates,
- describe how confidence intervals are used for public health decision making.

Module 3: Bringing Research Evidence to the Decision Making Table
- recognize the value of using research in public health decision making,
- describe the factors used to make informed decisions,
- provide practice examples of how research can inform decision making,
- identify the factors used to assess quantitative research evidence,
- describe types of pre-processed evidence,
- apply basic critical appraisal skills to research evidence,
- understand the importance of formulating focused questions,
- describe the elements of focused questions using PICO, PECO, and PS formats,
- formulate focused questions.

Each module consists of 4 learning products:

1. lessons,
2. quick facts,
3. facilitated case studies, and
4. self –assessments.

Adult learning principles (including reflective practice[1], multimedia learning theory[2] and the problem-based learning approach[3]) form the basis of the design and development of the course material. The lessons are completed by individuals online. The self-paced nature of the online lessons allow workplace learners to review content at a rate that is conducive to their current knowledge level and their work schedule. The facilitated case studies are designed to be implemented in work settings with groups of learners, providing the ability to learn and actively experiment with new and emerging ideas through social interaction with peers and mentors. OnCore takes approximately 33 hours to complete (includes online and in person learning).

The program was developed through a collaborative that included representatives from Public Health Ontario, Durham Region, University of Waterloo, CSSS de la Montérégie (now representing the Institut National de Santé Publique du Québec) and a group from the Region of Peel. As Peel was the main funded partner, the development and pilot implementation of the project was managed primarily through Peel staff. The steering committee met regularly to lead the project design, development, testing, and marketing. The Centre for Extended Learning at the University of Waterloo designed and developed the online course space.

PROGRAM FORMAT

OnCore-EnCours is housed on a password protected website (https://oncore-encours.ca) which is currently maintained by the Centre for Extended Learning at the University of Waterloo.

Each module includes a "knowledge set" of four learning products designed to respond to different stages

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[1] Schon, D. "Educating the Reflective Practitioner: Toward a new design for teaching and learning in the professions." Aust J Adult Learning, Vol. 50, No. 2, Jul 2010.

[2] Mayer, R. and Clark, R. (2011) Elearning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning. Pfeiffer Publishing.

[3] Albanese M.A. and Mitchell, S. (1993). Problem-based learning: A review of the literature on its outcomes and implementation issues. Acad Med, 68(1): 52-81.

of the learning process.

Learning Product	Description
1. Quick Facts	A one to two-page reference sheet or memory aid summarizing a key public health concept. Supports just-in-time learning and allows learners to access information quickly on key concepts to support their day-to-day work. Quick facts were designed to be easily accessible: learners can print the quick facts to keep at their desk or refer to them quickly from the online site using a direct link.
2. Self-Directed Online Lessons	Learners complete the online lessons at work at their own pace. It takes on average one hour to complete each lesson. Content is presented through a variety of methods including videos, audio recordings, practitioner polls, topic specific examples, quizzes, and reflective practice questions. Principles of multimedia design were used in the development of the online lessons. For example, graphics were carefully designed by the course authors and instructional digital media developers to aid in learning and retention by reducing extraneous processing and promoting generative processing. Large portions of text were visually designed for easy reading online. The lesson structure begins with a brief "story from the field" video which provides an introduction or "ice-breaker" to the lesson. The intended learning outcomes are presented along with the main learning content. Each lesson also includes a real-time "practitioner poll" which reveals their colleagues' reflections on key aspects of the learning content, for example: "Why should we be concerned about shifting the curve in public health?" Topic specific examples bring to life the learning content for learners from varying public health fields (e.g., maternal health, youth health and safety, etc.). Test You Knowledge is a formative self-assessment component of the lesson with real time feedback provided once answers are submitted online. Finally, the Application to Practice section gives the learner the opportunity to reflect deeply on the application of the learning content to their practice through guiding questions and in some cases brief scenarios. The AtP data is collected in the learner's personal online journal which learners then refer back to during the face to face facilitated case study sessions.
3. Facilitated Case Studies	The case studies, based on real public health scenarios form the basis of the problem based learning approach in Oncore-Encours. The cases reinforce the information presented in the learning modules. Managers, Supervisors and/or Epidemiologists facilitate these in-person case studies in small groups. Facilitators can pick and choose from a variety of activities provided for each case study.
4. Self-Assessments (pre- and post-tests)	The online self-assessments consist of 9-13 questions and are completed before and after each module. These objective assessments assess the learner's knowledge and skills relevant to the identified core competencies. The online self-assessment questions directly relate back to the intended learning outcomes of each module and the learning content of the corresponding lessons. Before the module, these self-assessments provide the motivation for learners to move forward and at the end of the module, they provide an unbiased assessment of the learner's progress.

The following table illustrates the number of online learning products developed for each module:

Module	Lessons	Quick Facts	Facilitated Case Studies	Self-Assessments
One	7	8	7	1
Two	5	7	3	1
Three	3	3	3	1

VALUE/SERVICE

SELF-ASSESSMENT RESULTS

For each module, participants' pre-test (self-assessment) scores were linked to their post-test scores. Analysis was conducted using all participants with linked pre- and post-test scores. In addition, intention-to-treat analysis was applied for cases with a known pre-test score but a missing post-test score. Analysis shows significant changes in test scores for all modules and among all three pilot locations. Overall, participants' post-test scores improved by at least 12 per cent or more after completing each of the three modules.

VALUE TO INSTITUTION/ORGANIZATIONS

OnCore fills a much-needed gap in core skills for working public health professionals. Public health practitioners come from a variety of disciplines and have had varying degrees of exposure to the public health sciences and to the use of data for assessment and analysis of the health status of populations. The Public Health Agency of Canada has described core competencies for all public health professionals. OnCore makes a significant step forward in building skills and knowledge in the first two competencies, Public Health Sciences and Assessment and Analysis. These are the two most technical of the competencies and the two most lacking in the general front-line workforce.

VALUE TO STUDENT/PARTICIPANTS

The OnCore facilitation team surveyed participants and held a series of focus groups to evaluate participant satisfaction with the program and more importantly, the effectiveness of the program in meetings its intended objectives. Here are some of the results:

Survey question: In your opinion, was the online portion of the course well-organized?
Participants said that they could easily navigate the course space after spending some time in it.
"I liked the navigation; it was straight forward and easy to find things."
"There was a similar structure used throughout the lessons."
They offered some suggestions on how to improve the user experience, such as adding next buttons between each section and changing the location of the quick facts so they were easier to find. CEL made changes to the course site based on participants' feedback.

Survey question: Were you able to fit OnCore into your work schedule?
Overall the majority of participants said that they were able to fit the course into their work schedules and that they completed the lessons at work. One of the most common strategies used by participants to complete the lessons was to schedule time in their calendars each week. Some participants said that it was difficult to complete the lessons at work and others preferred to complete the lessons at home.
"Sometimes it was difficult to do [online lessons] at work because I was interrupted."

Survey question: Was the information presented in the course applicable to your job?
The majority of participants, across all of the focus groups and sites, responded that the OnCore content was applicable to their work. This sentiment was expressed for all three modules. For example, several participants said that Module 1 explained what we do in public health and why we do what we do.

Often participants praised the use of relevant examples throughout the course, such as the measles outbreak in Quebec (Module 2), and how this helped them apply key concepts to their work. Participants provided specific examples of how they are applying assessment and analysis competencies addressed in OnCore to their public health practice.

> "I am currently looking at [health status] data [compiled] by our epidemiologist and using it in healthy sexuality programing."

> "I am getting ready to develop a PICO question so that I can look at the evidence."

Several respondents commented that OnCore should be a part of a new employee's orientation to public health.

> "OnCore helps organizations and individuals, new or experience, speak the same language and create a common ground for approaching their work."

A few participants said that while the information in the course applies to overall public health practice, it does not apply to the day-to-day work of all staff.

Survey question: What aspects of the course did you like the best?

Participants' top responses included: story from the field videos, facilitated case studies (in person), online case studies (e.g. Pellagra and Love Canal), quick facts, history of public health content (e.g. interactive timeline), real life examples (e.g. topic specific examples), course was interactive, fun and engaging, course catered to different learning styles, there were opportunities to apply concepts to practice, and learners were given feedback throughout the course (e.g. expert responses).

> "The program was really fun. The videos and games made the experience entertaining while helping to explain important concepts."

VALUE TO COMMUNITY COLLABORATORS

The collaborative that came together to steer the development of OnCore have reviewed the results of the evaluation and have reviewed the final product. The following are three key elements and outcomes that are extremely valuable to the collaborators and to the public health community.

1. <u>Entering into the full scope of public health practice.</u> The evaluation results suggest that there is a strong appetite for this kind of education. Front line staff, often public health nurses, public health inspectors, health promotion and community workers; have expressed strong interest in this content. For the majority they see their work represented in the content and it assists them in making the transition to practicing the full scope of public health practice.

2. <u>Behavioral outcomes</u>. In this project, public health core competency statements were translated into behavioural outcomes for the front line practitioner. Learning strategies (such as the problem or case based learning using a reflective practice approach) were designed to engage staff in the work of public health, using the competencies to analyze and consider real public health issues. This work gives insight into 'what it looks like' to practice public health using these competencies at the front line level. This is valuable awareness for both the practitioner and for the supervisors and managers who are assigning and directing work.

3. <u>In-service education.</u> Participants commented on the accessibility of the modules. They were done on work time for the large majority of pilot participants and in the time allocated. Team or sectional group discussions brought the concepts to life within the work of the group. The multidisciplinary and/or cross divisional groups created increased awareness of each other's work.

> "Everything that we needed for my team to complete OnCore was provided. My team did the online lessons and then came together to apply the concepts to our practice through the compelling case studies."

INGENUITY & INNOVATION

The OnCore-EnCours education program fills a niche in the public health training landscape. It is the only education program that addresses the Public Health Agency of Canada's first two competencies, that is specifically designed for front line public health professionals, and is designed to be implemented in teams in the work setting. While there are other courses available, they have not been specifically designed towards front line staff and may be geared towards specific disciplines. These other courses are highly descriptive in nature and sometimes contain a higher level of content more designed for specialist or analyst roles within public health. Still others provide content but without interactive elements that offer practice examples across the various domains of public health practice. The OnCore-EnCours education program works to make training relevant by recognizing the unique backgrounds and experiences of those participating in the course.

The key learning design characteristics of OnCore-EnCours include:
- Concepts are applied to 'real-life' public health problems, programs and practices (problem based approach)
- Content considers the diversity of the public health workforce
- Designed to promote reflective practice both through online lesson components and follow-up sessions
- Learning delivery is responsive to the needs of busy health professionals
- Users learn at their own pace and can 'pull' information from the learning materials (vs. 'push' info)
- Facilitated case studies can be adapted to meet the needs of the organizations implementing OnCore
- Promotes a social learning approach while reducing professional risk through initial, self-paced online lessons with follow-up small group facilitated sessions

PROFILE OF CONTINUING EDUCATION

Some of the OnCore-EnCours content may be appropriate for university students and programs. The Centre for Extended Learning supplied instructional design, project management, online development and quality assurance services to the OnCore-EnCours team. The mission of CEL is "to serve the multi-faceted needs of a diverse University of Waterloo learner base, wherever they reside, by offering high quality extended learning opportunities and experiences that are relevant, innovative and pedagogically sound." CEL's professional development group is engaged with external clients, such as Peel Public Health and its partners, to bring knowledge solutions to the workplace that direct relate to CEL's mandate. Furthermore, the university's faculty of applied health sciences, and specifically, the School of Public Health and Health Services offers both undergraduate and graduate level programs in public health. Being associated as a key player in bringing OnCore-EnCours to (potentially) some of the university's graduates or future adult learners helps CEL to meet its mission.

TO ACCESS THE COURSE SITE:

www.oncore-encours.ca

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Please email me at

vsosnowski@uwaterloo.ca to

obtain the credentials.

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