Core Competencies for Public Health

Literature Review

March 18, 2013

SUMMARY REPORT

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CORE COMPETENCIES LITERATURE REVIEW

BACKGROUND

In March 2004, a comprehensive literature review was completed by the Ontario Public Health Association (OPHA) for the Public Health Agency of Canada. That literature review was used to inform the development of consensus on a set of core competencies outlining the skills, knowledge and attitudes necessary for the practice of public health that are reflected in the *Core Competencies for Public Health in Canada Release 1.0* (Public Health Agency of Canada [PHAC], 2007).

The goal of this literature review is to identify information from 2005 to 2012 related to the development of core competencies for public health practice and/or the use of competency based approaches for public health workforce development.

The purpose of this review is to report new information, lessons learned and recommendations that were cited in the literature or found on the Internet since the previous literature was done back in 2004.

INTRODUCTION

Developing a competent workforce is critical to delivering on the vision, values and commitments of health promotion. Core competencies "identify the skills, knowledge and attitudes required across an organization or program to fulfill public health functions" (PHAC, 2007 p. 1) and provide the foundation for capacity building. They "transcend the boundaries of specific disciplines and are independent of topic or program" (PHAC, 2007 p. 1). Public Health Discipline Specific Competencies build on the *Core competencies for Public Health* and are targeted to a specific topic area or discipline within public health. According to Bondy et al (2008), "discipline specific competencies help a discipline to define their specific role within public health and guide training needs assessment and educational curricula development."

METHODOLOGY

This literature review includes published research and grey literature as well as public information found on the web.

Published and Grey Literature

Search Parameters:

The search parameters for the published and grey literature review were limited to English speaking sites from January 2005 to January 2013 using the following databases and search engines:

- PubMed
- CINAHL
- Scopus*
- Web of Knowledge
- Google Scholar
- Google

**Scopus was used primarily to look at references of key articles to see what articles they might be citing it. This is sometimes called the 'snowball' or 'pearling' search method. In other words, Scopus wasn't used to search for the keywords, but rather it was used to comb through the references of selected articles to see who was being used to back up claims in their work and also to find out who was cited in the professional literature.*

Search Terms:

The following search terms were used:

- Professional AND competency
- Competencies
- Capacity AND building
- Core AND competency
- Public AND health professional AND competency OR (capacity AND building)) AND "public health"
- Core competencies for public health

Inclusion Criteria:

The following inclusion criteria were applied:

- Focus on Public Health
- Focus on Core or Discipline Specific Competencies
- Focus on Capacity Building
- Focus on a Competency Based Approach for Workforce Development

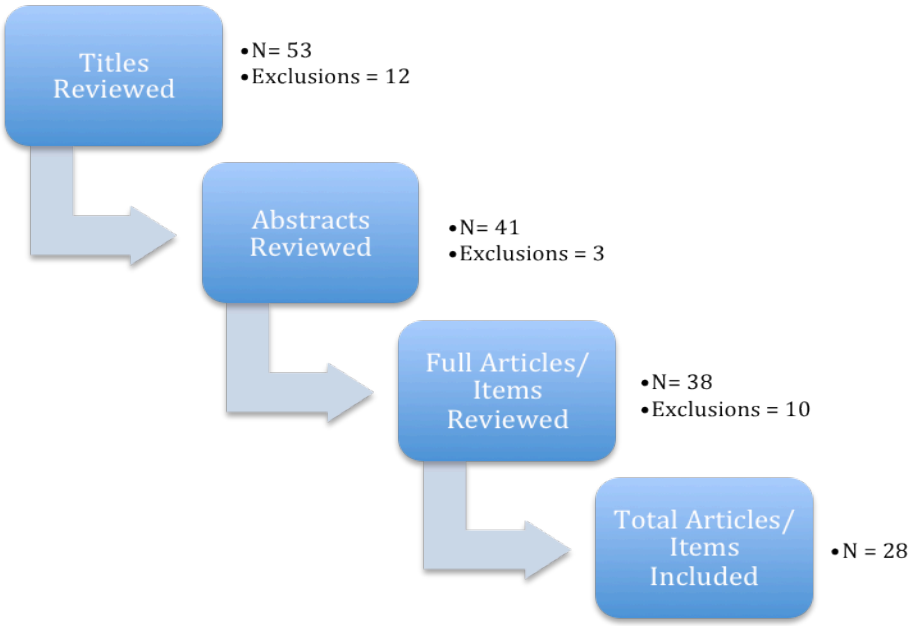
Exclusion Criteria:

The following exclusion criteria were applied:

- Did not Apply to Public Health Practice
- Focus on Governance and/or Management
- Focus on Broad Public Health Issues with No Mention of Competencies
- Focus on Infrastructure Development

Articles Reviewed:

After applying the inclusion and exclusion criteria, 53 titles were reviewed; 41 abstracts were reviewed; 38 full articles/items were assessed and finally 28 articles/items were accepted and included as part of this report.



Limitations:

Much of the information that focused on the development of core competencies for public health was published prior to 2005 and was not picked up in the search because the search parameter was limited to the time frame from January 2005 to January 2013.

Of the 28 articles that were reviewed 16 had a Canadian focus; 10 focused on the USA; and 2 had a global or international focus.

Public Information on the Internet

The search for published articles was augmented by a search for non-published information available on the Internet.

Search Parameters:

The search parameters included using the following search engines:

- Google

Search Terms:

The following search terms were used:

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The following inclusion criteria were applied:

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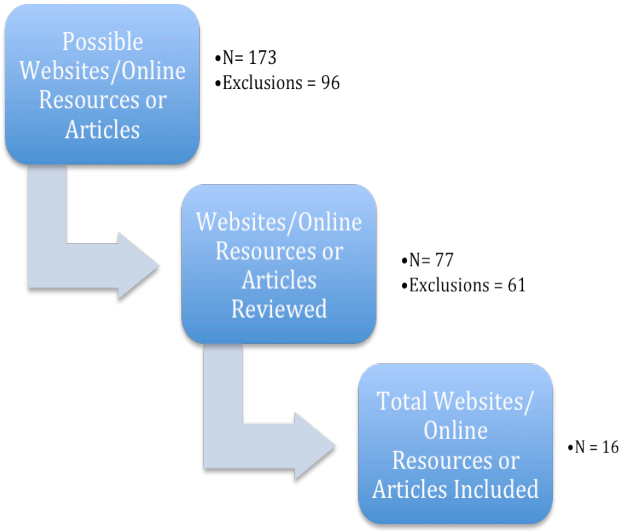
- Focus on Infrastructure Development

Websites/Internet Resources Reviewed:

This search yielded at total of 173 possible online resources for review. The process of reviewing these resources involved first looking at the title and then if the title seemed appropriate reviewing the website. After applying the inclusion and exclusion criteria and considering the limitation of time, 77 sites were reviewed and 16 resources/articles/items were accepted and included as part of this report. After reviewing 173 titles and 77 websites, articles and/or resources, a total of 16 new resources were found. Of the 16 new resources/articles/items that were reviewed, 3 had a Canadian focus; 5 focused on the USA; and 8 had a global or international focus.



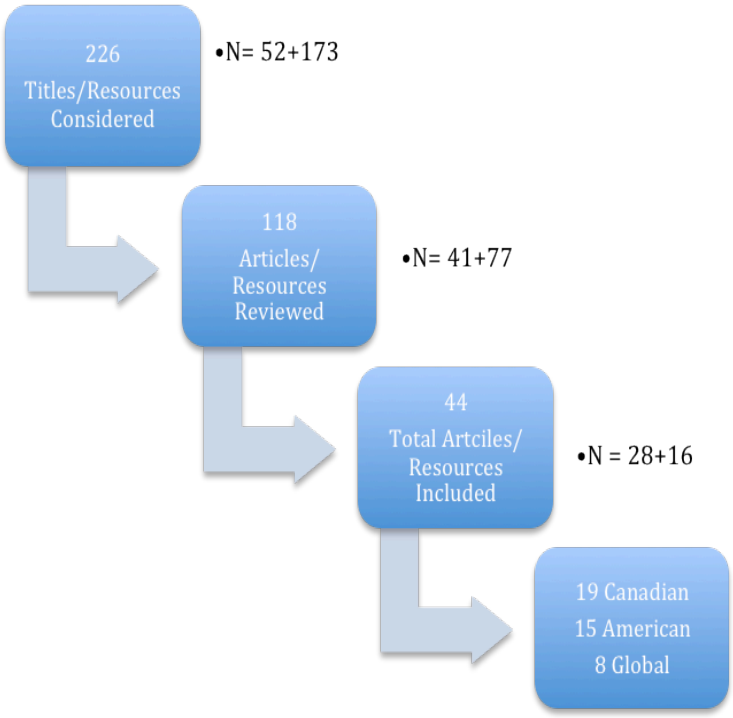
SUMMARY OF FINDINGS

The literature searched revealed information that has been published since 2004 as follows:

- Of the 28 articles that were gathered from the published and grey literature, 16 had a Canadian focus, 10 focused on the USA and 2 had a global or international focus.

- After reviewing 77 websites, articles or resources, a total of 16 additional resources were found. Of these 16 resources, 3 had a Canadian focus, 5 focused on the USA and 8 had a global or international focus.

- In total 44 articles, resources or websites were reviewed of which 19 had a Canadian focus, 15 focused on the USA and 10 had a global or international focus.



The following is a brief summary of the findings from the published and unpublished articles, resources and websites included in this review:

The Global Experience

Published and Grey Literature

Core domains of competencies for health promotion and health education were identified at the international consensus meeting (held in June 2008 in Galway Ireland) that was jointly organized by the International Union for Health Promotion and Education (IUHPE), The Society for Public Health Education (SOPHE) and the US Centres for Disease Control (CDC) list is similar to the Core Competencies for Public Health in Canada with the exception of the domain called "Catalysing Change". Catalysing change is defined as "enabling change and empowering individuals and communities to improve their health". (Barry, M. M et al, 2009 p. 8)

Battel- Kirk, Barry, Taub and Lysoby (2009) reported in their comprehensive review that "competencies have been shown to provide a useful base for health promotion training academic preparation, and continuing professional development."(p.18) Their article describes a scoping review done in 2007 that found evidence of ongoing work on competencies in 16 Countries in Europe. However much of the cited work occurred before 2005. They noted that Australia developed cultural competencies for health promotion but these were not linked to "professional" competencies. These authors state that it is

impossible to list all the competencies that were reviewed globally. However the common domains that emerged included:

- Assessment
- Planning and Consultation
- Implementation
- Evaluation and Research
- Knowledge – principles, values and ethics
- Communication
- Policy, Advocacy and Strategy Development
- Organization and Management
- Working with communities and Community Empowerment
- Partnership Building and Collaborative Working
- Strategic Leadership

Battel-Kirk et al (2009) identified the following advantages and disadvantages of employing a competency approach:

ADVANTAGES	DISADVANTAGES
Useful as a shared/agreed language for defining the tasks, skills and knowledge required for practice.	May be restrictive, reductionist, mechanistic; may limit innovation; may not allow for the dynamic nature of health promotion.
Useful in developing programmes, projects and curricula and in recruitment and selection of staff.	May undervalue professional judgement and experience.
Contributes to defining and consolidating the discipline.	Values and principles may be disregarded.

Battel-Kirk et al (2009) indicated that, "developing consensus on the core competencies in health promotion could serve as a useful basis for strengthening workforce capacity building and thereby contribute to advancing the quality of practice, education and training globally". (p.18)

Public Information on the Internet

The unpublished information obtained from the Internet revealed that Ireland has developed a set of competencies for Medical Practitioners (Royal College of Physician of Ireland, n.d.) while Australia has developed discipline competencies for Nurse Practitioners (Nursing and Midwifery Board of Australia, 2006), Midwives (Nursing and Midwifery Board of Australia, n.d.) and the profession of pharmacy (Pharmaceutical Society of Australia, n.d.). However nothing was found specifically related to the development of public health discipline specific competencies.

The Public Health Association of New Zealand developed a generic set of public health competencies for Aotearea-New Zealand and divided the 12 competency domains into Public Health Knowledge (5 competency domains) and Public Health Practice (7 competency domains) and according to level (Level 1 = Up to 2 years; Level 2 = 2 years to 5 years; Level 3 = More than 5 years). The competencies identified are similar to the Core Competencies for Public Health in Canada Release 1.) (PHAC, 2007) and reference the need for discipline specific competencies. (Public Health Association of New Zealand 2007; Dempsey et al 2011)

The Association of Schools of Public Health in the European Region (ASPHER) posted a draft document for comments on their website entitled "Provisional Lists of Core Competencies for Public Health Professionals (CCPHP)" that contained what they referred to as a "raw list" of core competencies. The competencies listed in this document were divided into Intellectual Competencies and Practical Competencies. (Association of Schools of Public Health in the European Region (ASPHER), 2011)

The Developing Competencies and Professional Standards for Health Promotion Capacity Building in Europe Project (CompHP) ended in October 2012. However the site is still accessible and contains a number of resources and unpublished documents. The goal of the project was to develop a shared vision for health promotion workforce capacity building in Europe through the establishment of core competencies professional standards and accreditation mechanisms for quality assurance in the education, training and practice of health promotion. (Barry, n.d.) The CompHP literature review that was done in May 2011, indicates that the Australian competencies were revised in 2005 using two rounds of the Delphi method and a series of workshops in 2006 and few changes were recommended. (Dempsey et al 2011) The CompHP literature review also references progress in many countries including Canada, the United States, Japan, Africa and Europe. However much of the information that was referenced occurred prior to the date parameters for this review.

The American Experience

Published and Grey Literature

There is evidence that the Core Competencies for Public Health Professionals offered a starting point for public health professionals to identify and address workforce development needs. (The Council on Linkages Between Academia and Public Health Practice, 2010; Centers for Disease Control and Prevention, 2009; Knox, & Spivak, 2005). More specifically, core competencies for doctoral education in public health (Calhoun et al 2012), competencies for public health informaticians (Centers for Disease Control and Prevention. 2009), competencies for applied epidemiologists in government public health agencies (Centers for Disease Control and Prevention. 2008), and core competencies for effective practice in youth violence prevention (Knox, & Spivak, 2005) have been developed and build on the core competencies for public health that were identified in the USA.

Competency based approaches have been used to strengthen workforce training (Amos, 2012) and appear to be an effective tool to guide workforce development programs (Stewart, et al., 2010) and measure evidence based decision making capacity in public health agencies (Jacobs. et al., 2012).

Calhoun et al (2012) report that there has been an increased emphasis on competency based education (CBE) as "a methodology for gaining stakeholder consensus, establishing a common lexicon for continued professionwide dialogue, and facilitating educational transformation". (p.23)

The competencies for public health informatics professionals identify a two-tiered set of 13 competencies and underlying subcompetencies. Proficiency in these competencies will enable public health professionals to "leverage the power of modern information technology in the science and practice of public health". (Centers for Disease Control and Prevention. 2009 p. 4)

The discipline specific competencies for applied epidemiologist identify 4 tiers of practice based on level of responsibility, experience and education. The four tiers are categorized as: entry level or basic; mid level; supervisory; and senior scientist/researcher. The competencies represent a continuum of practice, not a single point in a person's career. "In other words, a person may not start with knowledge or skills in all areas but would be expected to gain knowledge within each tier and potentially move through tiers over time". (Centers for Disease Control and Prevention. 2008 p. 4)

Recognizing that the one time development of a static set of competencies is not sufficient in the ever changing field of public health, the Council on Linkages Between Academia and Public Health Practice committed to revisit the Core Competencies every 3 years to determine their continued relevance to public health practice (2010). In 2004, the Council

concluded that there was inadequate evidence to support a significant revision. In 2007, "data had become available demonstrating that nearly 50% of local health departments and over 90% of academic public health institutions were using the Core Competencies. In addition, the practice of public health had changed considerably since 2001 and the Council on Linkages had received requests from both the practice and academic communities to make the Core Competencies more measurable. Based on these factors, the Council on Linkages decided to revise the Core Competencies." (The Council on Linkages Between Academia and Public Health Practice. 2010 p. 2)

In addition to updating the content, the 2007 revision of the Core Competencies involved structural changes. Below you will find a brief overview of the changes that were made. For more details about the content and structural changes that were introduced, the revised set of competencies "crosswalked" with the original set are available online: http://www.phf.org/resourcestools/Pages/Crosswalk_Publichealth_Competencies_new_and_old.aspx.

- New competencies were added for the tier 1 competencies: Demonstration of the use of public health informatics practices and procedures; Application of strategies for continuous quality improvement; Identification of the health literacy of the populations served; Participation in the assessment of the cultural competence of the public health organization; Ability to describe the laws, regulations, policies and procedures for the ethical conduct of research; Adherence to the organization's policies and procedures; Ability to translate evaluation report information into program performance improvement and action steps; Demonstration of public health informatics skills to improve program and business operations; Participation in mentoring and peer review or coaching opportunities. (The Council on Linkages Between Academia and Public Health Practice. 2010)

- New competencies were added for the tier 2 competencies: Incorporation of public health informatics practices; Development of strategies for continuous quality improvement; Ability to assess the health literacy of populations served; Ability to assess public health programs for their cultural competence; Ability to determine the laws, regulations, policies and procedures for the ethical conduct of research; Ability to develop partnerships with agencies within the federal, state, and local levels of government that have authority over public health situations or with specific issues, such as emergency events; Ability to implement the judicial and operational procedures of the governing body and/or administrative unit that oversees the operations of the public health organization; Use of evaluation results to improve performance; Application of public health informatics to improve program and business operations; Establishment of mentoring, peer advising, coaching or other personal

development opportunities for the public health workforce. (The Council on Linkages Between Academia and Public Health Practice. 2010)

- New competencies were added for the tier 3 competencies : Identification of the resources to meet community health needs; Ability to determine policy for the public health organization with guidance for the organization's governing body; Ability to oversee public health informatics practices and procedures; Implementation of organizational and system-wide strategies for continuous quality improvement; Integrations of emerging trends of the fiscal, social and political environment into public health strategic planning; Ability to ensure that the health literacy of populations served is considered throughout all communication strategies; Ability to communicate the role of public health within the overall health system; Ability to assess the public health organization for its cultural competence; Ability to ensure the public health organization's cultural competence; Advisement on the laws, regulations, policies and procedures for the ethical conduct of research; Establishment of partnerships with academic and other organizations to expand the public health science base and dissemination of research findings. (The Council on Linkages Between Academia and Public Health Practice. 2010)

A number of tools to assist public health professionals and organization to use the Core Competencies exist or are under development. Examples include competency assessment tools, quality improvement tools, workforce development plans, competency based job descriptions etc. (The Council on Linkages Between Academia and Public Health Practice. 2010) Samples of these tools can be found online at: http://www.phf.org/programs/corecompetencies/Pages/Core_Public_Health_Competencies_Tools.aspx

The John Hopkins Centre for Public health Preparedness piloted a training tool designed for the nine core competencies for public health called the *Road Map to Preparedness: A Competency Based Approach to All Hazards Emergency Readiness Training for the Public Health Workforce.* The training program is designed to keep traditional didactic lecture time to a minimum and requires participation in active learning processes. More information about this resource can be found at: http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-public-health-preparedness/training/road_map.html

Public Information on the Internet

The unpublished information obtained from the Internet search yielded 5 additional American articles/resources.

Three of the five resources reference the development of discipline specific competencies for epidemiology (Moser et al 2008) and competencies for master of public health students (Associations of Schools of Public Health, n.d.) and postdoctoral scholars (National Postdoctoral Association, 2009).

The fourth resource found on the Internet suggests that competencies can be categorized according to whether they are Knowledge Competencies, Skill and Ability Competencies or Behavioural Competencies. "Knowledge Competencies" refer to the practical or theoretical understanding of a subject while "Skill and Ability Competencies" refer to a natural or learned capacity to perform an act and "Behavioral Competencies" refer to a pattern of actions or conduct. (Washington State Human Resources, n.d.)

The final resource found on the Internet referenced the development of a Public Health Leadership Competency Framework that identified four leadership competency domains and 80 competency statements. The four domains identified were: Core Transformational Competencies; Political Competencies; Transformational Competencies and Team Building Competencies. The subheadings identified for each of these four competency domains are listed as follows:

- Core Transformational Competencies
    - Visionary Leadership
    - Sense of Mission
    - Effective Change Agent
- Political Competencies
    - Political Processes
    - Negotiation and Mediation
    - Ethics and Power
    - Marketing and Education
- Transformational Competencies
    - Organizational Capacity and Dynamics
    - Trans-Organizational Capacity and Collaboration
    - Social Forecasting and Marketing
- Team Building Competencies
    - Team Structures and Systems
    - Team Development
    - Facilitation and Mediation
    - Effective Role Model

(National Public Health Leadership Development Network 2005)

The Canadian Experience

Published and Grey Literature

There is evidence that the *Core Competencies for Public Health in Canada* is being used to guide public health practice and to develop discipline specific competencies. In particular, discipline specific competencies have been developed for public health epidemiologist (Bondy et al, 2008), Public Health Nursing (Community Health Nurses of Canada, 2009), Home Health Nursing (Community Health Nurses Canada - CHNC - IISCC. 2010), Public Health Nutrition Professionals (Dietitians of Canada, 2006), Environmental Public Health Professionals (Canadian Institute of Public Health Inspectors, 2010), Family Medicine Physicians (Harvey et al, 2011) and Medical Officers of Health in Canada (MOH Competencies Working Group, 2009) to name a few. Additionally, a set of competencies has been developed to articulate the competencies required for global health practitioners including educators and researchers (Cole, et al, 2011).

The discipline specific competencies cited in the literature reference or build on the *Core Competencies for Public Health in Canada* (PHAC, 2007) and identify the discipline specific technical competencies required to accompany the core competencies.

An environmental scan done by the City of Hamilton, Public Health Services in January 2010 (City of Hamilton Public Health Services. 2010 p. 2) identified the following recommendations related to the integration and use of the Core Competencies for Public Health in Canada:

- Increase emphasis on formal adoption of the Core Competencies
- Continue awareness building and strengthen the focus on practice-based learning
- Capitalize on workforce driven capacity building
- Engage public health disciplines in adaptive Core Competencies work
- Equip coaches and mentors
- Develop new tools and methods for integration
- Mobilize Core Competencies integration through network building
- Create space and opportunities for shared learning among public health organizations
- Support public health leadership at all levels

The Ontario Public Health Association (OPHA) developed the following resources (Ontario Public Health Association, 2011 p. 2) to facilitate the integration of core competencies into the work of public health practitioners:

- The Core Competencies for Public Health in Canada – Orientation Module.
- The Public Health Competency Based Employee Performance Management Toolkit v.2.

- The Performance Management E-Learning Module.
- The Fostering Leadership in Public Health through Mentoring: A Program Resource Guide.

According to Perison, Leslea et al (2012), competent public health practitioners require the knowledge and skills to conduct systematic literature reviews to be proficient in making informed decisions. Organizations on the other hand also need to develop organizational competencies that support evidence informed decision making (EIDM). "The critical factors and dynamics for building EIDM capacity at an organizational level included: clear vision and strong leadership workforce and skills development ability to access research (library services), fiscal investments, acquisition and development of technological resources, a knowledge management strategy, effective communication, a receptive organization culture, and a focus on change management. " (p.1)

Edwards and Maclean Davison (2008) used the CNA social justice gauge to evaluate the *Core Competencies for Public Health in Canada Release 1.0* and concluded they did not contain explicit reference to the essential attributes of social justice. They recommend that social justice principles be integrated into all of the existing domains instead of creating a new domain of social justice competencies because that might suggest they are a separate and optional set of competencies. (Edwards , & MacLean Davison, 2008)

The National Collaborating Centre for Determinants of Health (NCCDH) (2012) reviewed the Core Competencies for Public Health in Canada and determined that the UK and Australian core competency documents were more specific and inclusive of determinants of health content. They recommend amendments to the content and language in the *Core Competencies for Public Health in Canada: Release 1.0* to adequately reflect the significance of the determinants of health in public health practice. More specifically, the NCCDH (2012,p. 12) recommends that the revised edition of the Core Competencies consider the following suggestions:

- Include specific determinants of health content in all competency categories and throughout the document;
- Strengthen integration of a determinants of health approach in the competency statements by revising indirect references to the determinants of health and using specific and active language;
- Reflect the values and attitudes that are strongly stated in the preamble through the competency statements, practice examples, and glossary of terms;
- Reference an expanded list of determinants of health (e.g., Mikkonen and Raphael, 2010);
- Include explicit wording and relevant examples as modeled in the competency statements from other countries;

- Expand determinants of health content, both the amount and range, in the practice examples and glossary of terms;
- Review discipline-specific competencies (e.g., Community Health Nurses of Canada, 2009; Canadian Institute of Public Health Inspectors, 2010; Pan Canadian Task Force on Public Health Nutrition Practice, 2009) to determine if specific determinants of health content could be used.

Public Information on the Internet

The unpublished information obtained from the Internet search yielded 3 additional Canadian articles/resources.

The first resource was a website hosted by the Public Health Association of BC (PHABC) that showcases the Core Competencies for Public Health in Canada and how they have been applied and further developed in British Columbia. (Public Health Association of BC, n.d.)

The second resource was a discussion paper, prepared in 2006 by the Public Health Research, Education and Development (PHRED) Program in Hamilton that recommended 62 draft core competencies and informed the development of the *Core Competencies for Public Health in Canada Version 1.0.* (Public Health Research, Education and Development (PHRED) Program. 2006).

The third resource is a Canada Wide Competency Framework for Interprofessional Collaboration that was developed by the Canadian Interprofessional Health Collaborative (CIHC). The CIHC is made up of health organizations, health educators, researchers, health professionals and students from across Canada who believe interprofessional education and collaborative practice are key to building effective health care teams and improving the experience and outcomes of patients. More specifically, they define interprofessional collaboration as "the process of developing and maintaining effective interprofessional working relationships with learners, practitioners, patients/clients/families and communities to enable optimal health outcomes. Elements of collaboration include respect, trust, shared decision making and partnerships." (Canadian Interprofessional Health Collaborative, 2010 P. 8)

CONCLUSION:

The findings from this literature review indicate:

- Competency based approaches strengthen workforce capacity and contribute to advancing the quality of practice, education and training.

- The *Core Competencies for Public Health in Canada Release 1.0* are being used and referenced in the literature.

- Canada and the United States are leaders in the development of Discipline Specific Competencies for Public Health.

- The *Core Competencies for Public Health in Canada Release 1.0* has been used extensively to inform the development of discipline specific competency statements in Canada.

- Consideration should be given to adopting the same approach as the Council on Linkages between Academia and Public Health Practice (USA) which is to revisit the Core Competencies for Public Health in Canada every 3 years to determine their continued relevance and applicability.

- Consideration should be given to strengthen the language in the Core Competencies for Public Health in Canada to reflect the attributes of social justice within the competencies themselves.

- Consideration should be given to strengthen the language in the Core Competencies for Public Health in Canada to reflect the social determinants of health within the competencies statements.

- Consideration could be given to include an additional competency domain (or expand a current domain) to include "Catalysing Change" to acknowledge the competencies required to facilitate and work within ever changing social, cultural and political contexts.

- Consideration could be given to include an additional competency domain (or expand a current domain) to include "Public Health Informatics" and "Health Literacy" to acknowledge the competencies required to use information to improve program and business operations.

- Consideration could be given to expand Domain One - Public Health Sciences (or strengthen the language) to reflect the competencies required to translate knowledge into performance improvement or action.

- Consideration could be given to expand Domain Two – Assessment and Analysis (or strengthen the language) to reflect the competencies required to identify and mitigate risk.

- Consideration could be given to expand Domain Four – Partnerships, Collaboration and Advocacy (or strengthen the language) to reflect the competencies required for interprofessional collaboration.

- Consideration could be given to identify core competencies for public health organizations in Canada.

- Consideration could be given to work collaboratively to develop global consensus on the core competencies for health promotion.

- Consideration could be given to adopt a leveling approach to identify entry level, mid level, supervisory and senior level core competencies for public health in Canada with the recognition that practitioners don't necessarily need to be equally competent in all areas.

- Consideration could be given to develop competency assessment tools.

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