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EDUCATION

Public health in undergraduate nursing education and workforce readiness

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Abstract

Student engagement with the community is a cornerstone of undergraduate nursing education in Canada. Working with community from perspectives of social justice, health equity, advocacy, and political action are essential for workforce readiness. We suggest that the erosion of public health theory and clinical courses in baccalaureate nursing programs undermines the potential capability of nurses to address the intersectionality of the social determinants of health. The impact of the COVID-19 pandemic on populations further demonstrates inequities, particularly among marginalized populations. Public health nursing education supports students' understanding about the health impacts of social injustice, how systemic racism is embedded in colonial and Eurocentric structures, and practices of superiority and privileges.We, as a national group of public health nursing educators, set out to investigate how existing guidelines and competencies support public health in undergraduate education across Canada. Results from a national questionnaire of educators, and of PHN leaders on new graduate practice readiness are presented. Questionnaire responses confirm an erosion of PHN theory and practice in baccalaureate nursing education (BNE) curricula. The results of the questionnaires combined with evidence of PHN since the global pandemic provide educators and practitioners more insight to inform future directions to respond to workforce readiness.

KEYWORDS
baccalaureate, Covid-19, curriculum, public health nursing, workforce readiness

1 | INTRODUCTION

Student engagement with the community is a cornerstone of undergraduate nursing education in Canada. Working with community and society from perspectives of social justice, health equity, advocacy, and political action are essential for workforce readiness. We suggest that an erosion of community and public health theory, and practice courses in baccalaureate nursing programs undermines the capacity of nurses to address the intersectionality of the social determinants of health. The impact of the COVID-19 pandemic on populations in Canada further demonstrates inequities with current systems of care, particularly among marginalized populations. In public health nursing education, students gain understanding about the health impacts of social injustice and how systemic racism is embedded in colonial and Eurocentric structures and practices of superiority and privilege. However, repeated reports in national media paint a different picture about

mistreatment of Indigenous communities (Zimonjic, 2020), and revelations that the practice of nursing with Indigenous people in Canada fails to meet disciplinary aspirations of care, equity, inclusion, and respect for diversity (Cameron et al., 2014; Logan McCallum & Perry, 2018; Truth & Reconciliation Commission of Canada, 2015; Turpel-Lafond, 2020). Systemic racism, colonialism, and homophobia are prevalent in health care leading to further health inequities (Schreiber et al., 2021). As a national group of public health educators, we reached out to colleagues across the country to learn how the existing guidelines and competencies are integrated into curricula via a questionnaire. The feedback from educators about the integration of the Canadian Association of Schools of Nursing (CASN) *Entry-to-practice public health nursing competencies for undergraduate nursing education* (2014), and the CASN *Guidelines for quality community health nursing clinical placements for baccalaureate nursing students* (2010) across Canadian nursing programs, together with the perspectives of national public health nursing (PHN) leaders about new graduate practice readiness are presented. Responses confirm an erosion of PHN theory and practice in Canadian baccalaureate nursing education (BNE) curricula. The results of the questionnaires combined with evidence of PHN since the global pandemic provide educators and practioners more insight to inform future directions to inform workforce readiness.

2 | BACKGROUND

Competency-based education for entry level practice underpins nursing education in Canada (Canadian Council of Registered Nurse Regulators, 2021). The assumption is that the student will demonstrate acquisition of the identified essential knowledge, skills, and attitudes before leaving the learning environment (Hodges et al., 2019). The CASN *Entry-to-practice public health nursing competencies for undergraduate nursing education* (2014) provides schools of nursing with the the pre-licensure education requirements of necessary knowledge, skills, and attitudes to practice PHN in Canada.

Pre-licensure nurses require an education that prepares them to address health inequities, advocate for systemic change and culturally congruent resources from a place of cultural humility when engaging with individuals, families, communities, and populations. In Canada, health inequities are persistent and increasing among populations vulnerable to structural injustices, particularly among Indigenous populations (Kirmayer & Brass, 2016), and therefore, it is essential that nurses comprehend the underlying factors and processes leading to health inequities. To actively partake and accomplish reduction of health inequities, prelicensure nursing education must introduce theory that informs understanding of community and population health, and provide opportunities to relationally practice the knowledge, skills, and attitudes to build competency (Thornton & Persaud, 2018). Skills to work with community and populations from perspectives of social justice, health equity, advocacy, and political action for community health promotion are essential components of prelicensure education. The relationships formed among students, community, and PHN educators at their practicum sites has a significant impact on student learning and potentially their professional trajectories (Gresh et al., 2021).

A review of Canadian nursing literature reveals an alarming erosion of community health nursing (CHN) and PHN theory and practice in nursing education programs. Over the last 10 years there have been decreasing numbers of qualified PHN educators, inadequate PHN preparation, emphasis on acute care practice, lack of knowledgeable, experienced faculty, and appropriate practice placements (Pijl-Zieber et al., 2015; Valaitis et al., 2014); creating graduates who are unprepared for practice in all PHN competency areas (Ontario Association of Public Health Nursing Leaders, 2017).

The *CASN National Framework for Undergraduate Nursing Education* identifies PHN knowledge and practice as essential (CASN, 2015). Specifically, prelicensure graduates ought to: understand and apply principles of social justice; recognize the impact of and act toward mitigating the structural determinants of health; recognize and act toward mitigating the historical impacts on Indigenous peoples' health; apply knowledge in health promotion for priority populations; articulate the intersection between economic, social, political, cultural, and environmental factors; and advocate for healthy public policy (CASN, 2015). However, the responses from the questionnaire reveal this is not the case for many Canadian prelicensure graduates.

3 | METHOD TO DETERMINE WORKFORCE READINESS: PRE-COVID 19

Two parallel online questionnaires were distributed in spring 2018 (over a 3 week period) using the online survey tool, Jitsulab (JitsuTech, 2019). Educators who taught PHN theory and practice were invited to participate, as were PHN practitioners who have been preceptors or held leadership positions. Choosing to use questionnaires with educators and practitioners was intentional as they are stakeholders in the development of curricular resources. CASN posted the educators' questionnaire on their website, notified schools of nursing throughout Canada, and practitioners received the questionnaire link through their existing public health networks.

The educators' questionnaire was developed by faculty with expertise in public health education, practice, and research. The practitioners' questionnaire was developed by PHN leaders. Both were available in English and French, included rating and open-ended items referencing the *Guidelines* (Figure 1) and the *Competencies* (Figure 2).

3.1 | Educators' questionnaire

Demographic information included the school's location, faculty position, and type of placements. There were five criteria related to the *Guidelines* that asked about awareness of the *Guidelines*, knowledge of degree of scope and standards of CHN practice (Standards), degree of preparation and environment, and the integration in their curriculum. Open ended options were attached to each criteria question. For the *Competencies*, participants were asked if the content for each

Guidelines for Quality Community Health Nursing Clinical Placements for Baccalaureate Nursing Students.

Guideline Criteria for Quality Community Health Nursing Clinical Placements for Baccalaureate Nursing Students.

Guideline Criteria 1: Community Health Nursing Identity

Essential:

- Faculty advisor/clinical instructor has knowledge of the Canadian Community Health Nursing Standards of Practice, primary health care principles, public health sciences and nursing science.
- Faculty advisor/clinical instructor is able to translate the community placement experience so that students can understand the community health nursing role.

Preferred:

- Faculty advisor/clinical instructor has current community health nursing practice experience

Guideline 2: Community Health Nursing Scope of Practice

Essential:

- There is potential for students to work with clients at group and/or community levels.
- There is potential for exposure to broad determinants of health, citizen engagement, population health, and primary health care principles.
- There is exposure to multiple community health nursing strategies e.g., Building healthy public policy; Developing personal skills; Strengthening community action; Creating supportive environments; Reorienting health services.
- There are opportunities for practical experience where students can see the results of their actions and move toward independent practice.
- There are opportunities to develop collaborative relationships/partnerships.

Preferred:

- There are opportunities for the student to engage in practice with community as client.
- Students will experience being part of an interprofessional and potentially intersectoral team.
- Rural, remote and international placements are available.

FIGURE 1 Guidelines for quality community health nursing clinical placements for Baccalaureate nursing students

Guideline 3: Competent Well-Prepared Preceptor

Essential:

- There are organizational supports to precept, especially in the form of time to effectively
- support students.
- The preceptor has a positive attitude toward preceptorship and life-long learning.
- The preceptor has experience working in and/or with communities.
- The preceptor has the ability to help students apply theory into practice.

Preferred

- Formal preceptor orientation is provided collaboratively by the community organization and the academic institution (e.g., preceptor workshop or module).
- The preceptor is a nurse with community health nursing experience and knowledge of the
- Canadian Community Health Nursing Standards of Practice, primary health care principles, public health sciences and nursing sciences.

Guideline 4: Supportive Learning Environment for Student Learning

Essential:

- In a preceptored learning situation, there is ongoing, regular communication between faculty, preceptors, and students, with at least one verbal contact.
- The community placement setting has a caring and welcoming attitude towards student mentoring.
- Student orientation to the placement setting is provided.
- Attention is paid to student safety.

Preferred:

- In a preceptored learning situation, there is verbal communication at least at the beginning, middle and end of the experience involving faculty, preceptors and students.
- Student preference in placement choice should be given consideration.

Guideline 5: Community-Academic Partnership

Essential:

- Formalized agreements (e.g. MOU, signed contract) exist between the community organization and the academic institution.
- Clearly defined roles and expectations are agreed to by the community organization and the academic institution.

FIGURE 1 Continued

- Formal recognition of preceptor contribution is provided.

Preferred:

- Formalized cross-appointments exist between the community organization and the academic institution.

Canadian Association of Schools of Nursing. (2010). *Guidelines for Quality Community Health Nursing Clinical Placements for Baccalaureate Nursing Students.* Retrieved from https://casn.ca/wp-content/uploads/2014/12/CPGuidelinesFinalMarch.pdf

FIGURE 1 Continued

Entry to Practice Public Health Nursing Competencies for Undergraduate Nursing Education

Entry to Practice Public Health Nursing Competence Statements and Indicators for Undergraduate Nursing Education

Domain 1: Public Health Sciences in Nursing Practice

Competence*:* Applies public health sciences in nursing practice

Indicators:

1.1 Describes the history and current structure of public health, public health nursing, and the health care system in the context of local communities, Aboriginal peoples, provinces/territories, nationally, and globally.

1.2 Describes federal and provincial/territorial regulatory legislation and policy relevant to public health nursing.

1.3 Applies knowledge about the following concepts: the health status of populations, vulnerable populations, population health ethics, cultural safety, determinants of health, social justice, and principles of primary health care.

1.4 Applies knowledge of strategies for health protection: health promotion (including mental health), communicable and non-communicable disease, injury prevention and, health emergency preparedness and disaster response.

1.5 Describes the inter-relationships between the individual, family, community, population and system.

1.6 Articulates the intersection between economic, social, political, cultural and environmental factors, and the health of populations to inform healthy public policy.

FIGURE 2 Entry to practice public health nursing competencies for undergraduate nursing education

Domain 2: Population and Community Health Assessment and Analysis

Competence*:* Assesses and analyses population and community health using relevant data, research, nursing knowledge, and considering the local and global context.

Indicators:

2.1 Describes the importance of collecting nursing, community, and environmental data on the health of populations.

2.2 Recognizes the impact of the social and environmental/ecological determinants of health on groups/communities/populations.

2.3 Uses a population health lens to assess and analyze group/community/population health trends.

2. 4 Participates in group/community/population health assessment and analysis identifying opportunities and risks by using multiple methods and sources of knowing in partnership with the client.

2.5 Recognizes trends and patterns of epidemiological data, to identify gaps in service delivery, as well as capacities and opportunities for health.

Domain 3: Population Health Planning, Implementation and Evaluation

Competence*:* Participates in the planning, implementation, and evaluation of one or more of the following: population health promotion, injury and disease prevention, and health protection programs and services within the community.

Indicators:

3.1 Uses evidence to inform planning of population health programs and services.

3.2 Applies health promotion, injury and disease prevention strategies across the lifespan.

FIGURE 2 Continued

indicator was integrated into the curriculum, whether in theory or clinical, and during which semester. A "don't know" option was also provided.

3.2 | PHN practitioners' questionnaire

The practitioners were asked for demographic information on the location of their PH organization and on their position. Questions about the awareness of the *Guidelines* and each guideline criteria in Figure 1 were the same as those for educators. However, the main question for each of the competence domains was different. The practitioners were asked an addtitional set of questions to rate the level of preparation of new graduates to perform the competencies using a 5-point Likert scale, ranging from not prepared to very prepared. The final question asked them to choose from a list of potential options to strengthen readiness to practice: strengthening public health nursing theory and practice in undergraduate nursing education, a PHN certificate option within undergraduate nursing education, a postgraduate PHN certificate, a master's degree in PHN as entry to practice, post-degree education from public health organizations, status quo, or an open-ended option.

3.3 Participates in the monitoring and evaluation of the outcomes of population health programs and services.

Domain 4: Partnership, Collaboration and Advocacy

Competence: Engages with partners to collaborate and advocate with the community to create and implement strategies that improve the health of populations.

Indicators:

4.1 Engages with the community, in particular populations facing inequities, using a capacity building/mobilization approach to address public health issues.

4.2 Collaborates and advocates with the community to promote and protect the health of the community.

4.3 Seeks opportunities to participate in coalitions and inter-sectoral partnerships to develop and implement strategies to promote health.

Domain 5: Communication in Public Health Nursing

Competence: Applies communication strategies to effectively work with clients, health professionals and other sectors.

Indicators:

5.1 Applies health literacy when working with clients.

5.2 Uses social media, community resources and social marketing techniques appropriately to disseminate health information.

5.3 Documents population health nursing activities.

5.4 Uses appropriate communication techniques to influence decision makers.

Canadian Association of Schools of Nursing. (2014). *Entry-to-practice public health nursing competencies for undergraduate nursing education*. Retrieved from https://casn.ca/wp-content/uploads/2014/12/FINALpublichealthcompeENforweb.pdf

FIGURE 2 Continued

3.3 | Ethical considerations

Ethics approval was not required as the purpose of this questionnaire was to provide information to update educational programming and curricula, and the orientation of new hires (Government of Canada, 2018). However, ethical considerations guided the work. Completion of the questionnaire implied consent, and only aggregated findings, with non-identifiable, direct quotations, were reported to ensure confidentiality.

The descriptive information was analyzed using the Jitsulab tool. The responses for *Guidelines* and *Competencies* were organized as frequency counts and percentages. Narrative comments were analyzed using the adapted Colaizzi approach to identify main themes (Morrow et al., 2015). This process included familiarization with the comments to form meaning, and to cluster ideas in order to develop themes.

4 | RESULTS

We received responses from 120 participants: educators (n = 40) and PHN practitioners (n = 80). The majority of participants were from the Canadian provinces of Ontario and British Columbia. There

Positions of Educators and Practitioners

Educators (n=40)	Percentage	PHN Practitioners (n= 80)	Percentage
Deans	12.5	Director	12
Curriculum Leads	10	Manager	40
Course Coordinators	67.5	Supervisor	15
Placement Coordinator	10	Clinical Educator	12
		Preceptor	21

FIGURE 3 Positions of educators and practitioners

were no participants from Newfoundland, New Brunswick, Northwest Territories, and Quebec. Most educators (67%) identified as course coordinators and the majority of PHN practitioners were managers (40%) (Figure 3).

4.1 | Educators' responses

4.1.1 | Facing challenges with known guidelines

A key theme was facing challenges with the known *Guidelines*. Educators,while aware and knowledgeable of the *Guidelines*,(90% aware and 60% knowledgeable) expressed concern about implementation in the curriculum. For example, one educator stated "very knowledgeable applies only to faculty who has content expertise and experience in public health. Sometimes we have faculty who have no background in community health, so their knowledge about the Standards may be much lower."

Educators (42%) expressed concern about clinical practice opportunities, including too few PH placements. Three of the 17 written comments identified placements with non-nurse preceptors, 37.5% expressed concern of the lack of placements, and 58% identified limited opportunity for students to experience full scope of practice or the opportunity to practice comprehensivly what the College designates is safe, lawful, and effective. The following comment illustrates the inconsistent student experiences:

> Clinical practicum sites are getting harder to find with the current state of healthcare in [Province] (in terms of recent budgetary cuts, positions being deleted, and willingness to take on students). At some sites, the students do experience all of this: individuals, families, groups, and communities; at other sites, they may not experience all four sectors.

There was an ambivalence about non-nursing preceptored placements. Fifty one percent indicated a supportive environment and 40% were neutral. Many responses highlighted the link between faculty/program relationships with community placements and supportive learning environments. Unsupportive student learning environments were associated with new placements that were unprepared and offered limited scope of practice. Higher student enrollment, and decreasing availability of community placements, as well as non-community health faculty teaching PHN, were also of concern.

The majority of educators (82.5%) reported that there were clear expectations and roles in their partnership agreements, but some indicated the expectations were reflective of acute care not community practice. For example, not enough time allotted for relationship building and mentoring in community settings. Others added that they had never seen any formal expectations for their role.

4.1.2 | Integration of competencies

Domain one, PH sciences in nursing practice content, was taught primarily in theory courses. Conceptual knowledge, such as determinants of health, was more often taught in clinical courses. History and current structures of PH and legislation were minimally taught.

For domain two on population and community health assessment and analysis, four of five indicators were taught in theory courses, while participating in community health assessment was addressed in clinical. Community health assessment and analysis in theory and practice was taught most often in years three and four.

Program planning, implementation, and evaluation (domain 3) were taught in both theory and clinical, similar to monitoring and evaluation of outcomes. However, the indicator of "participates in monitoring and evaluation of outcome" was also the indicator most often reported as "*not taught*." Applying health promotion was most often included in students clinical practice.

Sixty-eight percent of educators indicated that partnerships, collaboration and advocacy (domain four) were taught in clinical settings. Yet, 28% of the educators reported the theory for these skills are not integrated in their curriculum. Fourty percent also indicated that communication in public health nursing (domain 5) was mostly taught in students' clinical practica, except for the dissemination of health information, which was slightly more prevalent in theory courses. Again, there were educators who specified three of the four indicators were not integrated in the curriculum. Some also responded that students were not prepared how to influence decision-makers. Overall, educators reported that students were given the opportunity for learning the competencies for PHN in theory (49%) or during students' practicum (44%); most frequently in years three or four.

4.2 | Practitioners' responses

4.2.1 | Mixed perspectives on using the guidelines

Forty percent of PHN practitioners reported awareness of the *Guidelines*. They also indicated strong knowledge of the first *Guidelines* criterion; the knowledge of Standards. For the second, efficacy of clinical placements, their responses focused on PH placements. PHN

participants were undecided whether placements had the capacity to prepare students to the full scope of practice, with 33% reporting a "*neutral*" response. Approximately, one-quarter reported that placements, including in PH, lacked the capacity to prepare students to the full scope of practice. Many also indicated a connection between the limited scope of practice and fewer clinical hours.

Most (76%) PHN practitioners reported that preceptors are "well prepared" and indicated that preceptor training was offered by universities or PH organizations. However, they also indicated that training was not paid or mandatory. Learning environments were supportive, despite reporting that having students was an additional responsibility. Practitioners reported that formal placement and academic partnership agreements were in place (61%). Finally, they noted differences in student preparation among university programs.

4.2.2 | Readiness to practice PHN competenices

Less than half of PHN practitioners (45%) reported that new graduates were "somewhat prepared" in all indicators, but "not prepared" in history and current PH structures (30%), particularly in legislation (42%). Fifty-two percent of practitioners selected the rating of "somewhat prepared" for new graduates in population and community health assessment and analysis, and "mostly prepared" in the recognition of health impacts. However, several reported (25%) that students were "not prepared" in all the indicators, especially in recognizing epidemiological trends.

Fifty-two percent indicated that most new graduates were "somewhat prepared" for public health planning, implementation and evaluation, with 48% responding that new graduates were least prepared in monitoring and evaluation. Similarly, in the partnerships, collaboration and advocacy domain, 48% rated new graduates as "somewhat prepared" in all indicators. One quarter reported that new graduates are "not prepared." In the last domain, 56% of the responses indicated that students were "not prepared" or "somewhat prepared" in how to influence decision-makers. However, they rated student preparedness in communication the highest of all five domains. Overall, more than half of the PHN practitioners who responded to the questionnaire reported that new graduates were "not prepared" or "somewhat prepared" in all entry to practice *Competencies* in public health nursing.

When practitioners were asked how to strengthen readiness for PHN practice, they overwhelmingly (≤70%) suggested changing the undergraduate curriculum. Also, 20% suggested including the option of a PHN certificate within the program, and 21% selected a PHN post-graduate certificate.

The lack of students' overall knowledge of public heath nursing is concerning. One practitioner described student learning: "it was a head-swivel to adjust to the health promotion model versus medical model." These findings suggest there is a need for increased integration of PHN theory and practice in undergraduate programs, including a balance between individual and population-based health promotion, and more clinical hours in PH. In addition, prelicensure students require a robust understanding of PH issues, political contexts, and skills in collaboration, advocacy and influencing for change toward healthy public policy.

5 | DISCUSSION

This process provided valuable information about the awareness and use of the CASN *Guidelines and Competencies*. While the uptake of the *Guidelines* and *Competencies* in most Canadian provinces is encouraging, significant gaps remain in competency-based development of theory and practice of public health nursing within Canadian prelicensure curricula.

Nurse educators noted a theory-practice gap in public health nursing, citing; limits to nursing faculty's knowledge of the Standards and the *Competencies*, concerns of faculty expertise in community engaged learning, clinical placements with limited opportunity for full scope of practice, non-nursing preceptored placements, and limited preceptor mentoring and support. This is consistent with what Pijl-Zieber et al. (2015) in Canada and Schoneman et al. (2014) in the USA report on the theory-practice gap, lack of role clarity, and limited opportunities to practice to full scope.

Practitioners identified the negative impact of limited clinical hours on students ability to learn the full scope of PHN practice, and highlighted unclear expectations among the roles of faculty, preceptors, students, and agencies. Lack of clarity around role expectations is problematic for student learning to connect theory to practice and to engage with clinical opportunities to meet *Competencies*. The application of theory into practice in community settings is a complex process requiring a shift in thinking from symptom management and problem-solving, to one of pattern recognition and intersectoral collaboration, targeting multiple levels of intervention from individual to policy reform. Educators reported that most indicators of population health assessment and analysis are taught in theory courses. Yet, practitioners felt that students are "somewhat" prepared to practice and "not at all" prepared to recognize epidemiological trends. According to PHN educators, program planning, implementation, and evaluation are covered in theory classes. Again, there is a disconnect as practitioners reported students' lack of participation in monitoring and evaluation during clinical practice (Valaitis et al., 2014). Despite educators overwhelming indication that the *Competencies* of partnership, collaboration and advocacy are taught during clinical practica, every fifth practitioner noted that students were "not prepared." Both educators and practitioners raised concerns about students' knowledge and ability to act for change in public policy.

The perceived gaps in competency preparedness are serious and require further investigation into possible causes. One avenue to explore may be whether there are sufficient opportunities for students to participate in full scope PHN practice, especially given rising concerns among PHN about their ability to practice to full scope themselves (Feringa et al., 2018). The results of this questionaire reveal a telling juxtaposition. While educators reported varying degrees of integration of the *Competencies* in curricula, practitioners stated that students were not adequately prepared to practice.

These results cast a necessary light on the persistent structural impediments for fulfilling quality prelicensure requirements There are limited community placements for increasing numbers of students, limited placements that meet criteria for quality learning, fewer hours in the curricula for PHN clinical, and preceptors having insufficient time for students. This is indicative of, and consistent with, the ongoing neglect and under-valuing of public health nursing in general, compared with acute care, both in education and in the health care systems across Canada (Canadian Nurses Association, 2013).

The loss of explicit and tacit knowledge about the entry to practice competencies in PHN for prelicensure students, introduced in the background section of this paper, is also of concern. Attention and action toward the structural determinants of health requires knowledge and skill in promoting systemic social change to address health inequities. In order to act, nurses require knowledge about the processes of public policy planning, implementation, and evaluation. Immersion in community placements provides tacit knowledge of relationship building and of deepening understanding of the meanings of health and well-being to people, and how policy may or may not be supportive in assisting people to effectively manage their health and well-being. In addition, active participation in assessment, planning, and evaluation of public health service delivery provides experiential learning for prelicensure students and invites a deeper understanding of the theoretical constructs taught in the classroom.

It is the authors' position that transformative learning and changes in perspective about health and well-being of people who are experiencing inequitable care delivery requires immersion in community practice whether virtually, face to face or in a hybrid model. Only then can students critically reflect on assumptions and beliefs that lead to racist or oppressive practices and act to change practice. Public health nurse educators are also struggling with the erosion of community/public health learning opportunities. This erosion is particularly disturbing as gaps in inequities are widening, and the knowledge and skill required to respond to calls for reconciliation and addressing systemic injustices are urgently needed.

6 | Lesson's learned from COVID-19

The literature and responses from the questionnaire support the authors' concern that public health nursing education in the undergraduate program continues to steadily erode. Curricular gaps, faculty expertise and practice placements are issues that nurse educators can address to advance PHN education to improve workforce readiness. Covid-19 has highlighted the need for a strong effective public health workforce (Cygan et al., 2021) and has prompted changes in PHN education in undergraduate programs. Cygan et al. (2021) found little difference in student outcomes when transitioning to 100% remote learning. Bejester et al. (2021) provide evidence of the successful transition to virtual clinical learning online during the pandemic. Gresh et al. (2021) describes an online educational strategy developed with community partnerships that enabled students to fulfill all the PHN competencies virtually. Knowledge, application and valuing the social determinants of health and equity were essential components to student learning in this process (Gresh et al., 2021). Applying Covid-19 real-time epidiomology for BNE courses is advocated by Farris (2021). The author employed weekly webinar Covid-19 updates and information which was instrumental in enabling students to understand and to apply epidiomological data; a gap identified in the questionnaire. Further, Farris (2021) stressed how global health, social determinants of health, and health disparites were integral to student learning of real-time epidiomiology. Norman and Meszaros (2021) share how rethinking and redoing placements with government and corporate agencies, using blended learning (face-to -face virtual, self directed and directed learning), and multidisciplinary working teams, have been paramount in enabling students to maintain effective clinical learning during the pandemic. The need for a supportive learning environment for students and faculty, faculty team work, opportunities for discussing creative strategies, and the sharing of innovative ideas amongst faculty were highlighted as being significant to the success of structural transformation in PHN education by Bejster et al. (2021), Gresh et al. (2021), and Norman et al. (2021).

The CASN (2021) Virtual Simulation Report in Nursing Education reported 75% of respondents overall had not used simulation prior to COVID-19. Now 35% of nurse educators in community health are employing virtual simulation both in theory and practice. Seventy percent of respondents reported that their school was replacing clinical hours with virtual simulations in its baccalaureate level programs. Globally, nurse educators have seized the opportunity for change to enhance the preparation of graduates by incorporating new strategies such as virtual clinical, building new parnterships, and using real-time data all in the context of the social deteminants of health and equity. Indeed, throughout the history of community health in Canada, PHN and PH educators have demonstrated resilience with visionary, and innovative strategies to promote health and to prevent illness during times of crisis (Vukic & Dilworth, 2020). Covid-19 has provided new impetus and vision for nurse educators to respond to the erosion of PH in undergraduate nursing education.

7 | Recommendations

This article highlights new and ongoing challenges, and opportunities to advance competency-based curricula for public health nursing. A lack of clarity in jurisdictional educational program review standards, and accreditation standards regarding clinical experience required for the PHN component of baccalaureate nursing programs in Canada is apparent (CASN, 2007, 2020; CNO, 2019). Academic-practice partnerships need to be strengthened and formalized with agreements that stipulate minimum requirements for theoretical and clinical PHN educational opportunities in the community. The facilitation of PHN praxis or the ability for students to act based on reflection and theory involves multiple approaches. Figure 4 provides strategies developed by the authors to enhance readiness to practice. One strategy to strengthen PHN practice for new graduates transitioning into public

Strategies to Strengthen PHN Education and Readiness to Practice

Undergraduate Nursing Education

- Praxis in *Competencies* development
- Dedicated practicum coordinator with PHN practice knowledge
- Adherence to *Guidelines* in selection of quality placements
- All faculty with current PHN experience and knowledge of *Competencies*
- Learning opportunities for interprofessional collaborative practice with other public health practitioners

Practice

- A national PHN postgraduate certificate as preferred for hiring, to respond to an improved workforce as practitioners indicated and recommended, this has already been established in Ontario.
- Designated student coordinator
- Dedicated preceptor time in workload
- Broad and longer learning experience of the PHN scope of practice

Partnership between Undergraduate Education and Practice

- PHN certificate in last year, to respond to practitioners' recommendations, this has been initiated at a university in Nova Scotia
- Preceptor and faculty mentorship
- Preceptor orientation
- Defined expectations in roles and responsibilities

Structural Support

- Formalized academic-practice partnerships to stipulate required supports

FIGURE 4 Strategies to strengthen PHN education and readiness to practice

health is the national PHN postgraduate program. This PHN postgraduate certificate would better enable nurses to gain PH employment which is necessary for the experience requirement to apply for CNA CHN certification (CNA, 2022). Other strategies could be offered at the structural level in the baccaulaurate program. For example, the commitment to supporting community education through resourcing community engaged learning practice, that in turn creates an effective teaching/learning environment. Multi-pronged, independent and collaborative approaches with undergraduate institutions and PHN practice are recommended. Research is needed to understand the factors influencing PHN workforce readiness and the perspective of students.

8 | The important take-aways

1. Readiness to practice in public health nursing requires a supportive environment to strengthen PHN curricula and to optimize clinical experiences in baccalaureate nursing programs.
2. There is concern about the integration of the *Competencies* in curricula and the lack of preparation of new nursing graduates for PHN practice.
3. Clinical placements, offering full scope of practice opportunities and faculty with PHN expertise, are required. All stakeholders are encouraged to use the *Competencies* and *Guidelines* independently, and collaboratively to reduce the erosion of PHN education.

4. Future nurses must be prepared to practice according to the principles of social justice toward health equity, particularly for historically disadvantaged populations.. These principles are foundational and their integration into practice is the essential way forward to dismantling racist and colonialist practices and to begin building meaningful relationships with diverse communities.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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