



Developing Public Health Nursing Competencies through Virtual Simulation Games

Companion Guide

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University of Ottawa

Queen's University

CAN-Sim

Canadian Association of Schools
of Nursing

Project Collaborators



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Companion Guide

Introduction

The use of virtual simulation in nursing education has increased significantly as a result of the impact of Covid-19 pandemic on face-to-face interactions (Luctkar-Flude & Tyerman, 2021). Research has supported this trend. Studies indicate that the achievement of learning outcomes through virtual and in-person simulation are comparable, and in some situations, virtual simulations have been found to be effective (Verkuyl & Mastrilli (2017). While virtual simulations of acute care situations have proliferated, only a small number target the development of public health nursing competencies. To address this gap, McMaster University School of Nursing, the Canadian Association of Schools of Nursing (CASN), and the Canadian Alliance of Nurse Educators (CAN-Sim) have created a series of three virtual serious games to develop public health nursing competencies in the following areas: 1) community assessment, 2) health promotion, and 3) program planning, implementation and evaluation.

The purpose of this Virtual Simulation Companion Guide is to provide educators with a resource to assist in promoting optimum learning when students engage in the public health nursing virtual simulations games. The Guide offers educators information about best practices in simulation-based learning as well as strategies to facilitate student achievement of the learning outcomes for each simulation game. Current evidence is provided on best practices related to the use of virtual simulations in nursing education, followed by a toolkit with teaching and learning strategies specific for the virtual games. The toolkit includes preparatory information educators may provide as well as preparatory learning activities and readings that they may assign prior to the virtual simulation experience. The toolkit also includes debriefing questions for each virtual game that educators may ask to facilitate learning and a student self-assessment rubric that may be used following the completion of the simulation game. The CASN Entry-to-Practice Public Health Nursing Competencies for Baccalaureate prepared nurses are mapped to each game (See Appendix B).

Background

Cant et al., (2019) define virtual simulations as computer-based learning activities that include: a) a realistic client case study; b) an activity requiring knowledge application; and c) learner engagement in the role of the care provider” (p. 40). Virtual serious games represent one type of virtual simulation. Several theoretical frameworks inform their creation including Kolb’s experiential learning theory, Knowles adult learning theory, and constructivism (Hoffman & Argeros, 2021; Kool, 2021; Kriz, 2010). Virtual simulations provide valuable teaching and learning

resources supporting students to bridge the theory practice gap. Within a virtual learning environment, the learner navigates realistic practice opportunities interacting with individuals/groups/communities to engage in critical thinking and decision-making affecting health outcomes of the patient, family, and healthcare provider (Tyerman et al., 2021; Verkuyl et al., 2018a).

Virtual simulations have been used to develop procedural skills in nursing students, enhance emergency response confidence and promote the learning of soft skills such as empathy (Keys et al., 2021; Plotzky et al (2021)). Virtual simulations are also used to foster clinical reasoning, problem solving, and decision-making (Johnsen, Fossum, & Vivekananda-Schmidt, 2016). Studies indicate that participation in a virtual serious game, is effective in developing clinical judgement among nursing students (Kool, 2021). Virtual simulation games also enable students to use previous knowledge and build new knowledge as they reflect on their reasoning and on their resulting decisions.

As previously noted, few available virtual simulations focus on public health nursing. An evaluation study was conducted comparing real life clinical experiences in public health nursing with a virtual simulation using Sentinel City®3.0. Student learning outcomes were found to be comparable and there was higher confidence in achieving learning outcomes among the students in the virtual simulation group (Chircop & Cobbett, 2020). Similarly, a mixed method study on the effectiveness of virtual simulation in community/public health nursing found students' knowledge, satisfaction, and self-confidence in learning increased (Hoffman & Argeros, 2021). An evaluation study of another computer-based simulation, Second Life®, indicated that student knowledge related to the assessment of the impact of environmental factors increased as did their knowledge on prioritizing nursing interventions based on safety, the public health nurse's role, and community resources (Schaffer et al., 2016).

Best Practices in Simulation

Nursing standards of best practices in simulation were first published by the International Nursing Association for Clinical Simulation and Learning (INACSL) in 2011 and have since been updated several times. Although previously, they targeted in-person simulations, the most recent revision of the standards published in 2021 apply to both in-person and virtual simulations (Luctkar-Flude & Tyerman, 2021) They have been renamed the Healthcare Simulation Standards of Best Practice™ (Watts et al., 2021) and focus on the following ten areas:

- **Professional development** – This concerns the need for initial and ongoing professional development of simulationists on the use of simulation in healthcare education.
- **Pre-briefing** – This process occurs prior to the learners' engagement in a simulation experience and includes preparing learners for the educational content of a simulation

and making them aware of the ground rules in order to establish a psychologically safe environment.

- **Simulation design** – The focus of this standard is on the need for simulation experiences to be purposefully designed to meet specified objectives as well as to optimize learners’ achievement of expected outcomes.
- **Facilitation** – This refers to the use of varied methods to guide participants to work cohesively, comprehend learning objectives and achieve desired outcomes.
- **Debriefing** – The standards include the requirement that there be a planned debriefing process in all simulations that includes feedback, debriefing, and/or guided reflection.
- **Operations** – This focuses on the requirement for systems and an infrastructure that support and maintain operations.
- **Outcomes and Objectives** – The standard specifies that simulation-based experiences must originate with the development of measurable objectives designed to achieve expected behaviors and outcomes.
- **Professional Integrity** – This is concerned with the expectation of ethical behaviors and conduct by facilitators, learners, and participants throughout simulation-based experiences.
- **Simulation enhanced IPE** – The focus is on enabling learners from different healthcare professions to engage in a simulation-based experience to achieve linked or shared objectives and outcomes.
- **Evaluation of Learning and Performance** - Simulation-based experiences may include formative and/or summative evaluation of the learner (INACSL Committee, 2021).

Optimizing Simulation-Based Learning

In line with the healthcare standards in simulation, the virtual simulation games in public health nursing have been designed to meet specified objectives, measurable outcomes and promote learning, by a team of experts in virtual simulation design and development, as well as content experts in public health nursing. Each of the games provide students with feedback on their performance throughout the simulation experience. They also incorporate a summative evaluation of students’ knowledge and skill. From the operations perspective, the virtual simulations are hosted, and will be maintained until 2027, on the CAN-Sim website. Educators and students can access them, freely and easily using a personal computer through the eCampusOntario Open Educational Resources portal (<https://www.ecampusontario.ca/open-education-resources/>), or CASN (<https://www.casn.ca/>).

Educators may further optimize the achievement of learning outcomes by incorporating the INACSL standards of pre-briefing, facilitation, debriefing, and professional integrity in preparation for, during, and following students' engagement in a virtual serious game. The INACSL criteria for each of these will be discussed followed by a toolkit that includes specific strategies that may be used for each game to optimize student learning.

Professional Integrity

The standard concerned with professional integrity emphasizes the importance of ethical behaviour that creates and maintains a safe learning environment for students. The criteria include the requirement that confidentiality of performance and scenario content be maintained based on institution policy and procedures and that equity, diversity, and inclusivity be demonstrated consistently by all involved. While the tool kit does not specifically address the professional integrity standard, the pre-briefing and facilitation strategies that are incorporated foster a safe learning environment for participants.

Pre-briefing/Presimulation preparation

Presimulation preparation involve learning activities given to the learn prior to the simulation-based learning experience which may include activities such as lectures, video recordings, assigned readings, or concept mapping (Tyerman et al., 2018). Prebriefing involves the activities (i.e. review of learning objectives, orientation to the learning environment, technical information needed to optimize gameplay) provided immediately prior to the simulation to orientate the learner with instructions or information to support optimal learning (Page-Cutrara, 2014). Pre-briefing contributes to the creation of a psychologically safe learning environment because it situates participants into a common mental model by preparing them for the educational content of the simulation-based experience and by preparing them for the ground rules to be followed during the simulation-based experience (Watts et al., 2021). Goldsworthy & Verkuyl (2021) emphasize the importance of a pre-brief when a virtual simulation experience is being used. Based on their extensive experience in virtual simulation, they offer practice tips to ensure psychological safety and emphasize sharing with students “clear learning outcomes, expectations, length of time, and technology/devices required for web-conferencing system” (p.59). Students who feel safe prior to the simulation, actively engage in it. According to Rudolph et al (2014) the pre-brief includes setting clear boundaries, expectations, and goals, attending to logistical details, and conveying respect. Learning activities and resources should be developed that support understanding of the concepts and content related to the simulation-based experience.

Conducting a planned pre-briefing session that is guided by the simulation objectives is recommended. Information to share with learners includes the type of scenario, how students

are evaluated, materials and learning activities to be completed prior to the simulation, as well as details about the logistics, the timelines and the technology involved (INACSL Committee, 2021). It may also include a discussion of procedures to ensure confidentiality.

Facilitation

Facilitation methods may differ when students in a simulation interact individually within a virtual learning environment rather than in real time with the facilitator and other students present. The facilitator's role, however, in both situations is to foster skill development, critical thinking, and the application of theoretical knowledge to practice situations. The INACSL Committee (2021) indicate that facilitation skills include displaying genuine respect of students, managing conflict among them, creating partnerships in learning, developing a goal-oriented process, coaching, and promoting critical and reflective thinking.

Debriefing

Debriefing is a key practice in fostering student learning and an essential component of a virtual simulation experience. Indeed, Sawyer and colleagues, (2016) argue that it is the most important in fostering learning. The goal of the debriefing process is to assist in the development of insights, improve future performance, and promote the transfer and integration of learning to practice (Watts et al., 2021). It includes feedback, debriefing, and/or guided reflection. Feedback is unidirectional in which information is transmitted to improve understanding of a concept or a performance. In contrast, debriefing is bi-directional, collaborative and reflective. With guided reflection, facilitators foster the learners' reflections on the experience to gain new insights.

When used by faculty as part of a virtual simulation learning experience, debriefing involves facilitating student reflection that may be virtual or in-person (Cheng et al., 2020). It is an example of reflective practice or reflection-on-action (Sawyer et al., 2016). The goal is "to assist the learners to reflect, understand, analyze, and synthesize what they thought, felt and did during the simulation" (Verkuyl et al., 2018b, p. 2). The INACSL Standards Committee (Watts et al., 2021) recommend using a Socratic approach with open-ended and/or reflective questions, incorporating communication skills including active listening, a non-judgemental attitude, and silence. Research supports a variety of debriefing delivery methods for virtual simulation including face-to-face, synchronous virtual, asynchronous virtual, computer debrief or self-debrief, with debriefer experience found to be an important component of the effectiveness (Luctkar-Flude et al., 2021).

Debriefing Models

Several debriefing models have been developed that provide educators with an organizing structure to guide the process. Three are outlined in Table 1 with sample questions provided for each model in order to offer educators using the public virtual simulation games some alternative approaches. They include the 3-D Model, the 3-Phase Model, and the Multi-phase Model. In the toolkit, the strategies for each game are based on the 3-D model.

- **The 3-D model** uses defusing, discovery and deepening to inform the debriefing questions (Zigmont, Kappus and Sudikoff, 2011). This model is based on Kolb’s experiential learning theory. The learner moves through the 3 stages of debriefing while gaining new knowledge that can be applied from a psychological safe environment to a future practice setting. The learner recognizes their learning gaps, identifies new learning, and then examines how the new learning can be applied in action.
- **3-Phase – Debriefing with Good Judgment Model.** Debriefing is described as a rigorous inquiry process in a psychological safe climate between the learner and educator that creates good judgement. The process for achieving this goal usually follows “a series of steps, such as processing reactions, analyzing the situation, generalizing to everyday experience, and shaping future action by lessons learned” (Rudolph et al., 2007, p. 361).
- **Multi-phase Model:** This model describes debriefing through a series of six steps that enables the student to share their virtual simulation experience during action and then during a period of reflection on their actions related to outcomes and their possible meaning for real clinical situation (Kriz, 2010).

Table 1: Sample Debriefing Questions for Three Debriefing Models

3-D Model of Debriefing (Zigmont, Kappus and Sudikof, 2011)		
Element	Focus	Sample Questions
Defusing	Discuss the impact of the virtual simulation	<ul style="list-style-type: none"> • How did you feel during the virtual simulation experience? • What happened during the simulation? • What didn't you know?
Discovery	Reflect on and conceptualize the simulation learning experience	<ul style="list-style-type: none"> • What actions did you take during the simulation experience? • What decisions did you make and why? • What competencies were needed to respond appropriately? • How does what you learned relate to what you have previously learned?
Deepening	Connect the new learning with new ways to practice	<ul style="list-style-type: none"> • If you were involved in a similar experience in the future, how would you respond? • How could you integrate this new experience in clinical practice?

3-Phase Model (Randolph et al., 2007)		
Element	Focus	Sample Questions
Reaction Phase	Discuss how the virtual simulation experience felt	<ul style="list-style-type: none"> • How did you feel beginning this virtual simulation? • How did you feel at the end of the virtual simulation, any different? and why? • What challenges did you face in completing the virtual simulation?
Analysis Phase	Explore reflections on what happened during the simulation and why students responded as they did	<ul style="list-style-type: none"> • What assumptions or biases did you have prior to the virtual simulation? • Are there other ways of responding that could have been tried in this scenario? • Any suggestions for other strategies that could have been used in this scenario?

3-Phase Model (Randolph et al., 2007)		
Element	Focus	Sample Questions
		<ul style="list-style-type: none"> • What was your rationale for your actions?
Summary Phase	Extract lessons learned and organize the insights gained during the analysis phase	<ul style="list-style-type: none"> • What are take away messages from this virtual simulation? • Can you think of examples of when nurses could use these competencies?

Multi-Phase Model (Kriz, 2010)		
Element	Focus	Sample Questions
Reaction	Discuss how the learner feels	<ul style="list-style-type: none"> • How did you feel during this virtual simulation?
Discuss clinical component	Reflect on what happened	<ul style="list-style-type: none"> • What did you observe? • What are your initial thoughts on what was happening in this clinical situation?
Transfer from simulation to reality	Reflect on relationship between virtual simulation and reality	<ul style="list-style-type: none"> • What is the relationship between what you experienced and real-life situations? • How could you use this virtual simulation experience in a real-life clinical situation? • What actions do you think could be used in future practice situations?
Discuss behavioral skills	Identify what was learned	<ul style="list-style-type: none"> • What personal insights did you gain? • What was the rationale for behaviours or actions taken?
Summary	Consider what happens if.....	<ul style="list-style-type: none"> • What might have happened if X decisions was made? • What alternative decisions could have been made and how would that have affected the outcome?
Future actions	Discuss possible action plans in the future	<ul style="list-style-type: none"> • In the future how could you apply what you learned in the virtual simulation?

Toolkit of Strategies to Optimize Learning

GAME 1 - COMMUNITY ASSESSMENT
Case Summary
<p>In Game 1 a reporter interviews a parent volunteer who expresses concern about the lack of school nutrition programs during the summer months in a city. Following this, a PHN Team meet to discuss the recent release of a Food Security report by the Social Planning and Research Council in the city. The team decide to complete a community assessment to gather primary and secondary information through various methods including windshield survey, Statistics Canada data, key informant interview, and a meeting with the Community Partners Roundtable.</p>
Learning Outcomes
<ul style="list-style-type: none">• Identifies an appropriate tool for a community assessment to use a systematic approach in assessing food security.• Gathers relevant information from appropriate secondary data sources to identify epidemiological trends and relevant determinants of health that contribute to food insecurity.• Gathers relevant information from appropriate primary data sources to identify community perspectives.• Analyzes the information gathered from the community assessment to identify community strengths and needs related to food insecurity.• Reports on the process and results of the community assessment to stakeholders to inform prioritization, planning and implementation in a partnership with the community.
Pre-Brief
<p>The pre-brief prepares the student for the virtual simulation learning experience and sets the ground rules.</p> <ul style="list-style-type: none">• Clarify the clinical instructor's role.• Review expectations of learners including preparatory reading requirements and learning activities to be completed such as defining key terms.• Provide instructions on participating in the virtual simulation.• Discuss the format of the debriefing.

GAME 1 - COMMUNITY ASSESSMENT

A. **Selection of preparatory required readings** (Relevant reading may be selected, followed by the selection of a textbook that aligns with the curriculum).

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

Community Health Nurses of Canada. (2019). *Canadian Community Health Nursing Professional Practice Model & Standards of Practice*. Ottawa, ON: Author. <https://www.chnc.ca/en/standards-of-practice>

Community Toolbox <https://ctb.ku.edu/en>

- Chapter 3 Assessing Community Needs and Resources
- Chapter 17 Analyzing Community Problems and Solutions

Ontario Dietitians in Public Health (2020). Position statement and recommendations on responses to food insecurity.

https://www.osnpvh.on.ca/upload/membership/document/2021-04/ps-eng-corrected-07april21_1.pdf

Ontario Government. (2021). Impact vs. effort matrix. <https://www.ontario.ca/page/impact-vs-effort-matrix>

Proof Food Insecurity Policy Research. Household food insecurity in Canada.

<https://proof.utoronto.ca/food-insecurity/>

Sudbury Health Unit. (2013). Let's Start a Conversation About Health...and Not Talk About Health Care at All. <https://www.youtube.com/watch?v=QboVEEJPNX0>

Textbook options (Select textbook that aligns with curriculum)

Diem, E. & Moyer, A. (2015). *Community and public health nursing: Learning to make a difference through teamwork* (2nd ed.). Canadian Scholars.

Stanhope, M., Lancaster, J., Jakubec, S., & Pike-MacDonald, S., (2022). *Community Health Nursing in Canada* (4th ed). Elsevier.

GAME 1 - COMMUNITY ASSESSMENT

Epidemiological Applications. (2022). In Stanhope, M., Lancaster, J., Jakubec, S., & Pike-MacDonald, S., *Community Health Nursing in Canada* (4th ed., pp.176-201) Elsevier.

Working with the Community. (2022). In Stanhope, M., Lancaster, J., Jakubec, S., & Pike-MacDonald, S., *Community Health Nursing in Canada* (4th ed., pp. 202-226). Elsevier

Stamler, L., Yiu, L., Dosani, A., Etowa, J., & Van Daalen-Smith, C. (2020). *Community health nursing: A Canadian perspective* (5th ed.). Pearson.

Stamler, L.L., Dosani, A. (2020). Epidemiology. In L.L. Stamler, L.Yiu, A. Dosani, J. Etowa, C. vanDaalen-Smith (Eds.). *Community health nursing: A Canadian perspective*. (pp. 202-217). Pearson Canada Inc.

Yiu, L. (2020). Community Nursing Process. In L.L. Stamler, L.Yiu, A. Dosani, J. Etowa, C. vanDaalen-Smith (Eds.). *Community health nursing: A Canadian perspective*. (pp. 249-270). Pearson Canada Inc.

Hardill, K. (2020). Poverty, homelessness, an food insecurity. In L.L. Stamler, L.Yiu, A. Dosani, J. Etowa, C. vanDaalen-Smith (Eds.). *Community health nursing: A Canadian perspective*. (pp. 521-536). Pearson Canada Inc.

Vollman, A. & Jackson, S. (2022). *Canadian community as partner: Theory and multidisciplinary practice* (5th ed.) Wolters Kluwer.

Edge, D. (2022). Patterns of Health and Disease: The Role of Epidemiology in Population Health. In A. Vollman, & S. Jackson. *Canadian community as partner: Theory and multidisciplinary practice* (5th ed.). (pp. 43- 64). Wolters Kluwer.

Vollman, A. (2022). Community assessment. In A. Vollman, & S. Jackson. *Canadian community as partner: Theory and multidisciplinary practice* (5th ed.) (pp. 222-247). Wolters Kluwer.

Vollman, A. (2022). Community analysis and diagnosis. In A. Vollman, & S. Jackson. *Canadian community as partner: Theory and multidisciplinary practice* (5th ed.) (pp. 248-268). Wolters Kluwer.

GAME 1 - COMMUNITY ASSESSMENT

Dupéré, S., Parent, A., Roy, M., & Adam, G. (2022). Working with the Community Toward Food Security in Limoilou, Quebec. In A. Vollman, & S. Jackson. *Canadian community as partner: Theory and multidisciplinary practice* (5th ed.) (pp. 311-321). Wolters Kluwer.

B. Key terms that students need to understand prior to their participation in the simulation

Community	Intersectionality
Community assessment	Key stakeholder
Community assets	Population health
Community development	Primary data source
Community partner	Qualitative data
Community partnership	Quantitative data
Determinants of health	Secondary data
Epidemiology	Social justice
Food security	Surveillance
Health equity	Windshield survey

C. Instructions for the virtual simulation Game 1

1. You will be shown a video of interactions among public health nurses and community members.
2. Following each video, you will be asked to select the most appropriate response to clinical decision questions.
3. Please note that sound is required to fully understand the interactions with the video.
4. It is preferred you use Google Chrome or Firefox to maintain optimal audio/visual output.
5. The game will take approximately 20 minutes to complete
6. You may complete the virtual simulation scenario as many times as you like.

Debrief

The goal is to advance the following:

- The development of new insights among students
- Improvement in future performance
- The transfer of simulation-based learning to practice (Watts et al., 2021).

Sample Questions (based on the 3-D Model)

Defusing

- How did you feel during the community assessment process?

GAME 1 - COMMUNITY ASSESSMENT

- What would you have liked to have known or understand better before starting the virtual simulation?

Discovering

- What community assessment methods did you observe during the community assessment process?
- What clinical decisions were made during the community assessment process?
- What was the rationale for these decisions?
- What public health knowledge and/or skills did you need during the virtual simulation?

Deepening

- What new knowledge related to community assessment did you gain as a result of participating in this virtual simulation?
- How could you use new practices you learned in real life clinical situations?

Student Self Assessment Rubric

The Likert scale offers learners the opportunity to quantify their perceived competence in meeting each learning outcome. It also provides a little more flexibility to self-rate their knowledge.

Learning Outcome	Competency Indicators	Competent Learner	Intermediate Learner	Novice Learner
Identifies an appropriate tool for a community assessment to use a systematic approach in assessing food security.	<ul style="list-style-type: none"> • Identifies an evidence-informed tool • Considers accessibility, contextually relevancy, and practicality • Applies in multiple settings • Applies within nursing practice • Uses a population health lens 	Independently identifies an appropriate community assessment tool for assessing food security of a specific community.	With minimal support identifies an appropriate community assessment tool for assessing food security of a specific community.	With prompting, identifies an appropriate community assessment tool for assessing food security of a specific community.
Comment	Likert Scale	6 5	4 3	2 1

Learning Outcome	Competency Indicators	Competent Learner	Intermediate Learner	Novice Learner			
Gathers relevant information from appropriate secondary data sources to identify epidemiological trends and relevant determinants of health contributing to food security.	<ul style="list-style-type: none"> Identifies relevant Statistics Canada data product Identifies relevant local reports Identifies relevant community service websites Recognizes relevant epidemiological trends Integrates determinants of health Uses a population health lens 	Independently identifies relevant secondary data sources contributing to food security	With minimal support identifies relevant secondary data sources contributing to food security	With prompting identifies relevant secondary data sources contributing to food security			
Comment	Likert Scale	6	5	4	3	2	1
Gathers relevant information from appropriate primary data sources to identify community perspectives	<ul style="list-style-type: none"> Identify the relevant methods of gathering information from primary sources Identifies relevant key stakeholders to recognize different perspectives Identifies relevant community collective groups Identifies relevant observations related to food security 	Independently identifies relevant primary information contributing to know community perspectives	With minimal support identifies relevant primary information contributing to know community perspectives	With prompting identifies relevant primary information contributing to know community perspectives			

Learning Outcome	Competency Indicators	Competent Learner	Intermediate Learner	Novice Learner
	<ul style="list-style-type: none"> Integrates determinants of health Uses a population health lens 			
Comment	Likert Scale	6 5	4 3	2 1
	-			
Analyze the information gathered from the community assessment to identify community strengths and needs related to food insecurity.	<ul style="list-style-type: none"> Integrates information gathered from all secondary sources Integrates information gathered from all primary sources Determines the relevant community strengths related to food security Determines the relevant community needs related to food insecurity Uses a population health lens 	Independently analyzes information gathered from multiple sources related to food insecurity	With minimal support analyzes information gathered from multiple sources related to food insecurity	With prompting analyzes information gathered from multiple sources related to food insecurity
Comments	Likert Scale	6 5	4 3	2 1
Reports on the process and results of the community assessment to stakeholders to	<ul style="list-style-type: none"> Identifies community partners to be involved with priority setting for food security 	Independently reports the community assessment with community	With minimal support reports the community assessment with	With prompting reports the community assessment with

Learning Outcome	Competency Indicators	Competent Learner	Intermediate Learner	Novice Learner			
inform prioritization, planning and implementation in partnership with the community.	<ul style="list-style-type: none"> Engages with these partners to collaborate in prioritization, planning and implementation Reports the synthesis of the community assessment methods used and sources Reports the synthesis of the community assessment Determine with the community partners the priorities for food security Uses a population health lens 	partners to set priorities for planning a food security program	community partners to set priorities for planning a food security program	community partners to set priorities for planning a food security program			
Comments	Likert Scale	6	5	4	3	2	1

GAME 2 - HEALTH PROMOTION

Case Summary

In Game 2 after completing a community assessment, reviewing the Food Security Report from the city Social Planning and Research Council, and meeting with the Community Partners Roundtable, the Public Health Nursing Team meets to discuss health promotion strategies and evaluation.

Learning Outcomes

GAME 2 - HEALTH PROMOTION

- Identifies an appropriate health promotion framework to support the use of multiple actions in addressing food insecurity.
- Collaborates with the client population and community partners to determine the most important considerations when selecting methods to address food security.
- Identified appropriate evidence-informed actions when developing a health promotion strategy to improve food security.
- Uses multiple health promotion approaches when implementing actions to reduce factors contributing to food insecurity.
- Assesses the impact of the health promotion interventions when working with the community to inform program planning evaluation.

Pre-Brief

The pre-brief prepares the student for the virtual simulation learning experience and sets the ground rules.

- Clarify the clinical instructor's role.
- Review expectations of learners including preparatory reading requirements and learning activities to be completed such as defining key terms.
- Provide instructions on participating in the virtual simulation.
- Discuss the format of the debriefing.

A. Selection of preparatory required readings: (References below provide a list of relevant readings that may be chosen and allows for the selection of a textbook that aligns with the curriculum).

Stamler, L., Yiu, L., Dosani, A., Etowa, J., & Van Daalen-Smith, C. (2020). *Community health nursing: A Canadian perspective* (5th ed.). Pearson.

Etowa, J., Ashely, a., & Moghadam, E. (2020). Policy, Politics and Power in Health Care. In. L.L. Stamler, L.Yiu, A. Dosani, J. Etowa, C. vanDaalen-Smith (Eds.). *Community health nursing: A Canadian perspective*. (pp. 18-34). Pearson Canada Inc.

Lind, C. & Baptiste, L. (2020). Health Promotion. In. L.L. Stamler, L.Yiu, A. Dosani, J. Etowa, C. vanDaalen-Smith (Eds.). *Community health nursing: A Canadian perspective*. (pp. 137-157). Pearson Canada Inc.

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GAME 2 - HEALTH PROMOTION

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Vollman, A. R., & Jackson, S. F. (2020). Public Policy. In A. Vollman, S. Jackson (Eds). *Canadian community as partner: Theory & multidisciplinary practice*. Lippincott Williams & Wilkins.

B. Key terms that students need to understand prior to their participation in the simulation

Advocacy	Primary Sources
Community Engagement	Secondary Sources
Community Needs Assessment	Sectors
Determinants of Health	Stakeholders
Downstream Approaches	Strength based Approach
Evidence Informed decision making	Peer Reviewed Sources
Food Security	Primary Care
Health Inequity	Universal Income
Health Promotion	Upstream Approaches
Healthy Public Policies	Windshield Survey
Population Health	

C. Instructions for the virtual simulation

1. You will be shown a video of interactions among public health nurses and community members.

GAME 2 - HEALTH PROMOTION

2. Following each video, you will be asked to select the most appropriate response to clinical decision question.
3. Please note that sound is required to fully understand the interactions with the video.
4. It is preferred you use Google Chrome or Firefox to maintain optimal audio/visual output.
5. The game will take approximately 20 minutes to complete
6. You may complete the virtual simulation scenario as many times as you like.

Debrief

The goal is to advance the following:

- The development of new insights among students
- Improvement in future performance
- The transfer of simulation-based learning to practice (Watts et al., 2021).

Sample Questions (based on the 3-D Model)

Defusing

- How did you feel during the virtual simulation?
- What would you have liked to have known or understand better before starting the virtual simulation?

Discovering

- What health promotion actions and at what level did you observe during the PHN team meeting?
- What clinical decisions were made during planning of the health promotion actions?
- What was the rationale for these decisions?
- What public health knowledge and/or skills were needed during the simulation demonstrations?

Deepening

- What new knowledge related to health promotion did you gain as a result of participating in this virtual simulation?
- How could you use new practices you learned in real life clinical situations?

Student Self Assessment Rubric

The Likert scale offers learners the opportunity to quantify their perceived competence in meeting each learning outcome. It also provides a little more flexibility to self-rate their knowledge.

Learning Outcome	Competency Indicators	Competent Learner	Intermediate Learner	Novice Learner
Identifies an appropriate health promotion framework to support the use of multiple actions in addressing food insecurity.	<ul style="list-style-type: none"> Identifies an evidence-informed tool Considers accessibility, contextually relevancy, and practicality Applies in multiple settings Applies within nursing practice Uses a population health lens 	Independently identifies an appropriate health promotion framework.	With minimal support identifies an appropriate health promotion framework.	With prompting or with significant guidance identifies an appropriate health promotion framework.
Comments	Likert Scale	6 5	4 3	2 1
Collaborates with the client population and community partners when determining the most important considerations in selecting the best approaches related to food security.	<ul style="list-style-type: none"> Introduces self and others Engages with partners to collaborate in decision making Communicates ideas clearly and with rationale Integrates multiple viewpoints of community members Uses consensus building techniques Integrates public participation principle of PHC 	Independently collaborates with the client population and community partners.	With minimal support collaborates with the client population and community partners.	With prompting or with significant guidance collaborates with the client population and community partners.

Learning Outcome	Competency Indicators	Competent Learner	Intermediate Learner	Novice Learner
Comment	Likert Scale	6 5	4 3	2 1
Identifies appropriate evidence-informed actions when developing a health promotion strategy to improve food security.	<ul style="list-style-type: none"> Integrates determinants of health in determining actions Integrates best evidence in identifying actions Collaborates with other sectors in determining health promotion actions Identifies actions that are relevant to community members Identifies actions are applicable in multiple settings Identifies actions are accessible and sustainable 	Independently determines appropriate evidence-informed actions.	With minimal support determines appropriate evidence-informed actions.	With prompting or with significant guidance determines appropriate evidence-informed actions.
Comments	Likert Scale	6 5	4 3	2 1
Uses multiple health promotion approaches when implementing actions to reduce factors	<ul style="list-style-type: none"> Integrates multiple health promotion actions Integrates actions with client as individuals, families, groups, 	Independently uses appropriate multiple health promotion approaches.	With minimal support uses appropriate multiple health promotion approaches.	With prompting or with significant guidance uses appropriate

Learning Outcome	Competency Indicators	Competent Learner	Intermediate Learner	Novice Learner			
contributing to food insecurity	communities, populations, and systems <ul style="list-style-type: none"> • Collaborates with other sectors in health promotion actions • Applies across the life span • Applies in multiple settings • Integrates actions that are accessible • Determines appropriate use of resources and skills 			multiple health promotion approaches.			
Comments	Likert Scale	6	5	4	3	2	1
Assesses the impact of the health promotion interventions when working with the community to inform program planning evaluation.	<ul style="list-style-type: none"> • Identifies an evidence-informed tool • Critically analyzes the health promotion actions to determine outcomes • Identifies outcomes with greatest impact • Collaborates with others in determining outcomes • Uses a population health lens 	Independently identifies the impact of the health promotion interventions.	With minimal support identifies the impact of the health promotion interventions .	With prompting or with significant guidance identifies the impact of the health promotion interventions .			

Learning Outcome	Competency Indicators	Competent Learner	Intermediate Learner	Novice Learner
Comments	Likert Scale	6 5	4 3	2 1

GAME 3 – PROGRAM PLANNING AND EVALUATION	
Case Summary	
<p>In Game 3 the PHNs work with the Community Partners Roundtable to develop a food security program using a program planning tool that includes evaluation. The program planning is informed by a logic model commonly used by public health nurses in practice to develop a program to promote food security in the community.</p>	
Learning Outcomes	
<ul style="list-style-type: none"> • Identify an appropriate planning framework in collaboration with the community stakeholders to guide the development of a food security program. • Apply health equity principles in planning the food security program to reduce health inequity. • Apply the planning framework in collaboration with community members to set goals, objectives, strategies, and outcomes for the food security program. • Identify the connection between program planning and evaluation to determine program impact. 	
Pre-Brief	
<p>The pre-brief prepares the student for the virtual simulation learning experience and sets the ground rules.</p> <ul style="list-style-type: none"> • Clarify the clinical instructor’s role. • Review expectations of learners including preparatory reading requirements and learning activities to be completed such as defining key terms. • Provide instructions on participating in the virtual simulation. • Discuss the format of the debriefing 	
<p>A. Selection of preparatory required readings: (References below provide a list of relevant readings that may be chosen and allows for the selection of a textbook that aligns with the curriculum).</p>	

GAME 3 – PROGRAM PLANNING AND EVALUATION

Edwards, N., MacDonald, J.-A., Meyer, M., Estable, A., MacLean, L., & Zimmerman, L. (2009). Multiple Intervention Framework Toolkit. Ottawa, ON: University of Ottawa and Ontario Ministry of Health. <https://www.nccmt.ca/knowledge-repositories/search/31>

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Abdi, S., Mensah, G. (2016) Focus on: Logic models- a planning and evaluation tool. Toronto, ON: Printer for Ontario. <https://www.publichealthontario.ca/-/media/documents/F/2016/focus-on-logic-model.pdf>

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National Collaborating Centre for Determinant of Health. (2013). Let's talk: Public health roles for improving health equity. Antigonish, NS: Author, St. Francis Xavier University. https://nccdh.ca/images/uploads/PHR_EN_Final.pdf

Textbook options (Select textbook that aligns to curriculum)

Stamler, L., Yiu, L., Dosani, A., Etowa, J., & Van Daalen-Smith, C. (2020). Community health nursing: A Canadian perspective (5th ed.). Pearson.

Edwards, N.C., & Etowa, J. (2020). Community health planning, monitoring, and evaluation. In Stamler, Yui et al., *Community Health Nursing a Canadian Perspective* (5th ed., pp. 271-289). Pearson.

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Planning for Action. In Diem, E., & Moyer, A. (2015). *Community and Public Health Nursing: Learning to Make a Difference in Teamwork* (2nd ed., pp. 162-196). Canadian Scholars' Press Inc.

GAME 3 – PROGRAM PLANNING AND EVALUATION

Evaluating community health programs. In Diem, E., & Moyer, A. (2015). *Community and Public Health Nursing: Learning to Make a Difference in Teamwork* (2nd ed., pp. 367-391). Canadian Scholars' Press Inc.

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B. Key terms that students should ensure they understand prior to their participation in the sim

Logic model
Precede-Proceed model
Multiple intervention framework
Program Logic Model
Health equity
Structural activities

C. Instructions for the virtual simulation

1. You will be shown a video of interactions among public health nurses and community members.
2. Following each video, you will be asked to select the most appropriate response to clinical decision question.
3. Please note that sound is required to fully understand the interactions with the video.
4. It is preferred you use Google Chrome or Firefox to maintain optimal audio/visual output.
5. The game will take approximately 20 minutes to complete
6. You may complete the virtual simulation scenario as many times as you like.

Debrief

The goal is to advance the following:

- The development of new insights among students
- Improvement in future performance
- The transfer of simulation-based learning to practice (Watts et al., 2021)

Sample Questions (based on the 3-D Model)

GAME 3 – PROGRAM PLANNING AND EVALUATION

Defusing

- How did you feel during the virtual simulation?
- What would you have liked to have known or understand better before starting the virtual simulation?

Discovering

- What program planning and evaluation did you observe during the Community Round Table meeting?
- What clinical decisions were made during development of the logic model?
- What was the rationale for these decisions?
- What public health knowledge and/or skills were needed during the simulation demonstrations?

Deepening

- What new knowledge related to program planning and evaluation did you gain as a result of participating in this virtual simulation?
- How could you use new practices you learned in real life clinical situations?

Student Self Assessment Rubric

The Likert scale offers learners the opportunity to quantify their perceived competence in meeting each learning outcome. It also provides a little more flexibility to self-rate their knowledge.

Competency	Competency indicators	Competent Learner	Intermediate Learner	Novice Learner
Identify an appropriate planning framework in collaboration with the community stakeholders to guide the development of a food security program.	<ul style="list-style-type: none"> • Identifies evidence-informed planning tool • Considers accessibility, contextually relevant, and practicality • Applies in multiple settings • Applies within nursing practice 	Independently identifies an appropriate health promotion planning framework	With minimal support identifies an appropriate health promotion planning framework	With prompting identifies an appropriate health promotion Planning framework

Competency	Competency indicators	Competent Learner	Intermediate Learner	Novice Learner
	<ul style="list-style-type: none"> • Uses a population health lens 			
Comments	Likert Scale	6 5	4 3	2 1
Apply health equity principles in planning the food security program to reduce health inequity.	<ul style="list-style-type: none"> • Differentiates between health equity and health equality • Integrates the principles of health equity in planning with priority populations • Integrates the determinants of health in planning • Engaging with partners to collaborate • Participates in the planning process 	Independently applies the health equity principles in planning the food security program	With minimal support applies the health equity principles in planning the food security program	With prompting applies the health equity principles in planning the food security program
Comments	Likert Scale	6 5	4 3	2 1
Apply the planning framework in collaboration with the community to set	<ul style="list-style-type: none"> • Integrates the information gathered in the community assessment • Develop goals and objectives 	Independently applies the components of the planning framework to the food	With minimal support applies the components of the planning framework to	With guidance applies the components of the planning framework

Competency	Competency indicators	Competent Learner	Intermediate Learner	Novice Learner
goals, objectives, strategies, and outcomes for the food security program.	based on health promotion interventions <ul style="list-style-type: none"> Integrates population health promotion strategies Develop evaluation outcomes Collaborates with the community to develop the plan 	security program	the food security program	to the food security program
Comments	Likert Scale	6 5	4 3	2 1
Identify the connection between program planning and evaluation to determine program impact.	<ul style="list-style-type: none"> Uses the evidence-informed planning tool Considers the relevant determinants of health Considers the health promotion actions for food security Identifies the relevant measurable outputs of the program activities Identifies the relevant 	Independently identifies the connection between program planning and evaluation for a food security program	With minimal support identifies the connection between program planning and evaluation for a food security program	With prompting identifies the connection between program planning and evaluation for a food security program

Competency	Competency indicators	Competent Learner	Intermediate Learner	Novice Learner			
	measurable outcomes of the program activities <ul style="list-style-type: none"> Determines how outputs and outcomes in planning tool are used for evaluation 						
Comments	Likert Scale	6	5	4	3	2	1

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Appendix A – Technical Reviewers, Content Developers, Content Reviewers and Actors

Technical Reviewers

Name	Institution
Francoise Fillion RN, MSc(N)	McGill University
Catherine-Anne Miller RN, MHSc	McGill University
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Content Developers

Name	Institution
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Susan Tam RN, BScN, MScN, CCHN(C)	Durham Region Public Health, Ryerson University
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Game 3	
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Jane Tyerman RN, PhD, CCSNE	University of Ottawa
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Content Reviewers

Name	Institution
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Game 3	
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May Tao, RN, MScN	Toronto Public Health

Actors

Name	Role
Jeremy VanderMunnik	Reporter (Brian)
Sarah VanderMunnik	Parent (Mary)
Owen VanderMunnik	Youth (Jamie)
May Tao	Public Health Nurse Lead (Julie)
Sangeetha Kulathilagar	Public Health Nurse 1 (Kelly)
Susan Tam	Public Health Nurse 2 (Nicole)
Suzana dos Passos Tavares	Public Health Nurse 3 (Lisa)
Tanya Sanders	Service provider from the Neighbourhood Service organization (Louise)
Devin Crockett	Member of Community Fellowship Church (Mike)
Dawn Mercer Riselli	Family Resource Centre (Samantha)
Denise Francois	Librarian (Lily)
Rachel Ellington	Nursing Student (Sarah)
Macayla Muller	Nursing Student (Cassandra)
Melissa Raby	Service provider Community Mental Health Program (Michelle)

Appendix B - Mapping of CASN Competencies to Each Game

Mapping of the CASN Entry-to-Practice Public Health Nursing Competencies for Undergraduate Nursing Education (2014) to Each Game

GAME 1
CASN Entry to Practice Public Health Nursing Competencies
Domain 1 - Public Health Sciences in Nursing Practice
Competency 1: Applies public health sciences in nursing practice.
Indicators: 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 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.
Domain 2 - Population and Community Health Assessment and Analysis
Competency 2: 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 4 - Partnerships, Collaboration, and Advocacy
Competency 4: Engages with partners to collaborate and advocate with the community to create and implement strategies that improve the health of populations.

GAME 1
CASN Entry to Practice Public Health Nursing Competencies
<p>Indicators:</p> <p>4.1 Engages with the community, in particular populations facing inequities, using a capacity building/mobilization approach to address public health issues.</p> <p>4.2 Collaborates and advocates with the community to promote and protect the health of the community.</p>
Domain 5- Communication in Public Health Nursing
Competency 5: Applies communication strategies to effectively work with clients, health professionals and other sectors.
<p>5.1 Applies health literacy when working with clients.</p> <p>5.4 Uses appropriate communication techniques to influence decision makers.</p>

GAME 2
CASN Entry to Practice Public Health Nursing Competencies
Domain 1 - Public Health Sciences in Nursing Practice
Competency 1: Applies public health sciences in nursing practice.
<p>Indicators:</p> <p>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.</p> <p>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.</p> <p>1.5 Describes the inter-relationships between the individual, family, community population and system.</p> <p>1.6 Articulates the intersection between economic, social, political, cultural, and environmental factors, and the health of populations to inform healthy public policy.</p>
Domain 2 - Population and Community Health Assessment and Analysis
Competency 2: Assesses and analyses population and community health using relevant data, research, nursing knowledge, and considering the local and global context.
<p>Indicators:</p> <p>2.1 Describes the importance of collecting nursing, community, and environmental data on the health of populations.</p>

GAME 2
CASN Entry to Practice Public Health Nursing Competencies
<p>2.2 Recognizes the impact of the social and environmental/ecological determinants of health on groups/communities/populations.</p> <p>2.3 Uses a population health lens to assess and analyze group/community/population health trends.</p> <p>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.</p>
Domain 3 - Population Health Planning, Implementation, and Evaluation
Competency 3: Participates in the planning, implementation, and evaluation of one or more of the following: population, and health promotion, injury and disease prevention, and health protection programs and services within the community.
<p>Indicators:</p> <p>3.1 Uses evidence to inform planning of population health programs and services.</p> <p>3.2 Applies health promotion, injury, and disease prevention strategies across the lifespan.</p>
Domain 4 - Partnerships, Collaboration, and Advocacy
Competency 4: Engages with partners to collaborate and advocate with the community to create and implement strategies that improve the health of populations.
<p>Indicators:</p> <p>4.1 Engages with the community, in particular populations facing inequities, using a capacity building/mobilization approach to address public health issues.</p> <p>4.2 Collaborates and advocates with the community to promote and protect the health of the community.</p> <p>4.3 Seeks opportunities to participate in coalitions and inter-sectoral partnerships to develop and implement strategies to promote health.</p>
Domain 5- Communication in Public Health Nursing
Competency 5: Applies communication strategies to effectively work with clients, health professionals and other sectors.
<p>5.1 Applies health literacy when working with clients</p> <p>5.4 Uses appropriate communication techniques to influence decision makers.</p>

GAME 3
CASN Entry to Practice Public Health Nursing Competencies
Domain 1 - Public Health Sciences in Nursing Practice
Competency 1: Applies public health sciences in nursing practice.
<p>Indicators:</p> <p>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.</p> <p>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.</p> <p>1.5 Describes the inter-relationships between the individual, family, community population and system.</p> <p>1.6 Articulates the intersection between economic, social, political, cultural, and environmental factors, and the health of populations to inform healthy public policy.</p>
Domain 2 - Population and Community Health Assessment and Analysis
Competency 2: Assesses and analyses population and community health using relevant data, research, nursing knowledge, and considering the local and global context.
<p>Indicators:</p> <p>2.1 Describes the importance of collecting nursing, community, and environmental data on the health of populations.</p> <p>2.2 Recognizes the impact of the social and environmental/ecological determinants of health on groups/communities/populations.</p> <p>2.3 Uses a population health lens to assess and analyze group/community/population health trends.</p> <p>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.</p>
Domain 3 - Population Health Planning, Implementation, and Evaluation
Competency 3: Participates in the planning, implementation, and evaluation of one or more of the following: population, and health promotion, injury and disease prevention, and health protection programs and services within the community.
<p>Indicators:</p> <p>3.1 Uses evidence to inform planning of population health programs and services.</p> <p>3.2 Applies health promotion, injury, and disease prevention strategies across the lifespan.</p>

GAME 3
CASN Entry to Practice Public Health Nursing Competencies
3.3 Participates in the monitoring and evaluation of the outcomes of population health programs and services
Domain 4 - Partnerships, Collaboration, and Advocacy
Competency 4: 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
Competency 5: Applies communication strategies to effectively work with clients, health professionals and other sectors.
5.1 Applies health literacy when working with clients 5.4 Uses appropriate communication techniques to influence decision makers.