

# TRANSFORMING NURSING THROUGH KNOWLEDGE

Best Practices for Guideline Development,  
Implementation Science, and Evaluation



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# ENHANCING THE EVIDENCE-BASED NURSING CURRICULUM AND COMPETENCE IN EVIDENCE-BASED PRACTICE

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## LEARNING OBJECTIVES

After reading this chapter, you will be able to:

- Define academic Best Practice Spotlight Organizations
- Describe processes for becoming an academic Best Practice Spotlight Organization
- Understand how Best Practice Guideline (BPG) integration in the undergraduate nursing curriculum enhances student learning about evidence-based practice
- Outline teaching-learning strategies to enhance nursing student learning about BPGs
- Identify supports for successful integration of BPGs in the academic setting
- Discuss strategies for overcoming challenges to integrate and sustain BPG integration in curriculum
- Delineate ways to measure the success of integrating BPGs in academic settings
- Consider how academic Best Practice Spotlight Organizations contribute to a program of research in academic institutions

## INTRODUCTION

The purpose of this chapter is to introduce academic Best Practice Spotlight Organizations (academic BPSO) and describe how the quality of undergraduate nursing education and graduate nurse competence in evidence-based practice (EBP) is enhanced through the integration of the Registered Nurses' Association of Ontario's (RNAO) Best Practice Guidelines (BPG) in the curriculum. Academic BPSOs focus on integrating BPGs into nursing curricula to better prepare students for EBP, enhancing patient and family outcomes. This chapter is relevant to all those involved in the education and mentoring of undergraduate nurses, including educators in academic settings, nurses and managers in practice settings, and members of the interprofessional healthcare team with whom nurses collaborate for person and family care.

Integration of BPGs into undergraduate and graduate nursing curricula can greatly facilitate the academic sector's efforts to close the theory-practice gap. Since the BPG Program's inception, RNAO has engaged nursing faculty in supporting the use of BPGs in the nursing curricula. For example, RNAO partnered with various schools of nursing in a series of projects to demonstrate the process and impact of integrating select BPGs into the curriculum. The resulting program enhancements provided current evidence to inform the curriculum, and also demonstrated to students the research and evidence base of nursing, through the BPGs. These projects highlighted the need for a resource for faculty and staff development educators that would incorporate lessons learned and provide a guide, much like the RNAO Implementation Toolkit (2012c), targeted to faculty and focused on integration of BPGs into the curriculum. Such a guide—the *Educator's Resource: Integration of Best Practice Guidelines* (RNAO, 2005)—was subsequently developed with extensive involvement of faculty and service-setting educators from inception to publication and dissemination. Since its publication, numerous faculty and service-setting educators have accessed the resource to inform their use of BPGs in teaching activities.

### REFLECTION

*As an educator in an academic or service setting, how do you see yourself using a clinical Best Practice Guideline to reinforce nursing as a knowledge profession?*

The formal involvement of academic settings in the BPSO Designation began in 2009 with Trent/Fleming School of Nursing in Ontario leading the way for the establishment of what would become a growing cohort of international academic BPSOs. In 2013, St. Francis Xavier University Rankin School of Nursing, Nova Scotia, began its candidacy as Canada's first national academic BPSO. These BPSOs are now located in universities in 10 countries—Belgium, Canada, Chile, China, Colombia, Italy, Jamaica, Portugal, Qatar, and Spain. Regardless of their geographic location, academic BPSOs are committed to enriching the professional practice of graduate nurses, enhancing evidence-based cultures, and ultimately improving person and family care.

This chapter draws on the experiences of three national and international academic BPSOs: the Rankin School of Nursing St. Francis Xavier University (StFX) in Nova Scotia, Canada; the Universidad de Chile Nursing Department in Santiago de Chile; and the Universidad Autonoma de Bucaramanga Nursing Program (UNAB) in Bucaramanga, Colombia.

## C A S E S T U D Y

Founded in 1853, StFX is one of Canada's oldest universities located in Nova Scotia, Canada. Rooted in values of integrity, dignity, truth, and respect for all, StFX is known for its reputable undergraduate experience and for the excellence of its teaching, research, and service. StFX has a rich tradition of social justice and leadership, a mission for service, and is home to the world-renowned Coady International Institute and National Collaborating Centre for the Determinants of Health. The school of nursing was established in 1926 and is an innovative leader in nursing education, research, community engagement, and collaborative partnerships locally, provincially, nationally, and globally. This Nova Scotian school of nursing was accepted as a BPSO in December 2013.

The Universidad de Chile was founded in 1842 and is the largest, oldest, and amongst the three top institution of higher education in the country. The University of Chile is a public university and fosters leadership and innovation in sciences and technologies and in the humanities and the arts through its teaching, development, and outreach, with special emphasis on research and postgraduate studies. It promotes a prepared, critical citizenship embracing a social conscience and ethical responsibility.

It espouses the values of tolerance, pluralism, and equity; intellectual independence and freedom of thought; as well as respect, promotion, and preservation of diversity in all areas of its work. In 1906, the School of Nursing was founded and was the first school for nurses in both the state and in South America. This Chilean school of nursing became a BPSO in December 2011 (Silva-Galleguillos, 2015, 2016).

The Autonomous University of Bucaramanga (UNAB) is a private, not-for-profit institution located in the city of Bucaramanga, Department of Santander, Colombia. UNAB is rooted in the values of democracy, independence, and liberty. It is committed to excellence of its academic programs, strong academic and administrative support processes, and ongoing accreditation of the institution. Its programs adhere to the Guidelines for Higher Education in Colombia (LAW 266, 1996) that promote accessibility and quality in higher education within the global context. The nursing program was founded in 2008 and seeks to innovate within the nursing profession, through an international program that responds to the needs of both the country and the world. This Colombian school of nursing became a BPSO in October 2014.

In this chapter, we will first introduce the candidacy and designation of academic BPSOs. The purpose and process of becoming a BPSO is presented, and the integration of BPGs into curricula is described in detail. We discuss reinforcing supports and overcoming challenges for sustained change, as well as measuring the success of BPG integration in the academic setting. The chapter concludes with a discussion of the role of academic BPSOs in research. When applicable, similarities or distinctions are made between academic and health service BPSOs.

## FROM CANDIDACY TO DESIGNATION

The BPSO Designation aims to support BPG implementation and evaluation at the organizational (meso) level (RNAO, 2017a). To achieve designation, academic BPSOs must go through the same rigorous application and candidacy process as health service organizations (RNAO, 2017a). With the support of RNAO, academic BPSOs commit to a 3-year candidacy period during which they build institutional capacity for curriculum innovation, integrate BPGs into theoretical and practice-based courses, and formalize related evaluation and research. Academic institutions that achieve these goals by the end of the 3-year qualifying period become Designated academic BPSOs. The focus of Designate BPSOs shifts from establishing, planning, and implementing the curriculum innovation to sustaining the existing BPGs in the curriculum and integrating additional ones. Designates also focus on sustaining BPG use by student nurses in the care of persons and families, mentoring other academic BPSOs, and engaging in research related to implementation science.

## PURPOSE OF ACADEMIC BPSOs

Educators in schools of nursing are charged with ensuring that their graduating nursing students are prepared to apply the best evidence for safe, high-quality, and effective healthcare. Yet, new nurses frequently believe they are not adequately prepared to integrate scientific evidence into their daily practice (Dawley, Rosen Bloch, Dunphy Suplee, McKeever, & Scherzer, 2011; Finotto, Carpanoni, Casadei Turrone, Camellini, & Mecugni, 2013). Nurse leaders also question the ability of graduating nurses to understand evidence-based practice (Nursing Executive Center, 2008). Scholars further argue that nursing students' education in class is often far removed from the realities experienced during clinical practice (Florin, Ehrenberg, Wallin, & Gustavsson, 2012; Jones, 2007). Furthermore, students experience more support to use and apply research during their classroom instruction compared to their clinical practice experiences (Florin et al., 2012).

Academic BPSOs are leading a curriculum innovation that uses BPGs to address this evidence preparation and readiness gap amongst new nurses.

Unlike the implementation of BPGs in health service settings, where recommendations become actionable at the bedside, BPGs in academic BPSOs serve a different yet critical purpose. In the academic setting, BPGs serve as a foundational tool for teaching and preparing nursing students for evidence-based practice. BPGs are threaded into all theoretical and practice-based courses as a way for students to learn about how to make evidence-based decisions for nursing practice, effecting better person and family outcomes.

In each course, applicable BPGs are used to support student learning about how to identify, assess, select, apply, and evaluate evidence. For example, pressure injuries (RNAO, 2016a), vascular access (RNAO, 2008), and end-of-life care (RNAO, 2011a) BPGs guide student learning about clinical management issues. BPGs related to breastfeeding (RNAO, 2003), safe sleep (RNAO, 2014b), and woman abuse (RNAO, 2012d) are valuable to population-focused courses such as paediatrics or women's health. Substance use (RNAO, 2015b), suicide (RNAO, 2009a), pain management (RNAO, 2013a), and hypertension (RNAO, 2009b) BPGs are beneficial to specialty-based courses such as mental health or medical-surgical nursing, while health-promoting BPGs, such as prevention of childhood obesity (RNAO, 2014a) and management of chronic disease (RNAO, 2010), support public health and community-based courses.

The experience of the three schools of nursing is that the BPGs can be used in many ways throughout the curriculum. For example, the *Person-and Family-Centred Care* BPG (RNAO, 2015c) serves to guide student learning about people's experience of health and the role of family in health, which is foundational to all nursing practice and thus applicable to all nursing courses. In some cases, a BPG can inform the overall design of a course. The *Establishing Therapeutic Relationships* BPG (2006b), for instance, has impacted course design in a number of ways. It is used by academic BPSOs to organize course content that aims to support nursing students' development of requisite knowledge and capacities for establishing and engaging in therapeutic relationships. It is also used to complement specific courses in the mental health component of the curriculum. System and Healthy Work Environment BPGs are used to design courses focused on the health, safety, and well-being of the nurse.

Moreover, the authors also found that the System and Healthy Work Environment BPGs (RNAO, 2017c) have a critical role in nursing education. Learning how to work in intra- and interprofessional

teams (RNAO, 2006a, 2013b, 2016b), managing conflict (2012b), and developing cultural competence (2007a) and leadership (2013c) are examples of the Healthy Work Environment BPGs that support the development of professional practice as part of the Professionalism BPG (RNAO, 2007b) amongst nursing students. Essentially, all 41 clinical (RNAO, 2017b) and 12 system and healthy environment BPGs (RNAO, 2017c) have a place in a broad range of diverse nursing courses. Thus, in academic BPSOs, BPGs are an integrated component of a curriculum that serves to prepare future nurses for professional, evidence-based practice.

Finally, as part of evidence-based practice competencies (Melyk, Gallagher-Ford, Long, & Fineout-Overholt, 2014), it is important that students are aware of the elements of implementation science as they use BPGs, observe their uptake by clinicians, and collaborate to initiate sustained BPG use over time in clinical settings. This is an important component of the curriculum, especially in those academic BPSOs with graduate programs. Using RNAO's BPGs and related implementation resources in both the theory and practicum components of their curriculum, the University of Antwerp in Belgium has found that through the academic BPSO Designation, it has been able to strengthen its graduate degree curriculum in relation to implementation science.



## REFLECTION

*What are the benefits to practice, education, nurses, students, and patients when both service and academic settings become designated as BPSOs?*

*“The BPSO Designation and related work with our faculty and students has strengthened the evidence-based practice component of our curriculum, in particular implementation science. Our graduate students are now learning and leading in this area in their workplaces.”*

—Prof. Dr. Peter Van Bogaert, PhD, RN  
BPSO Lead

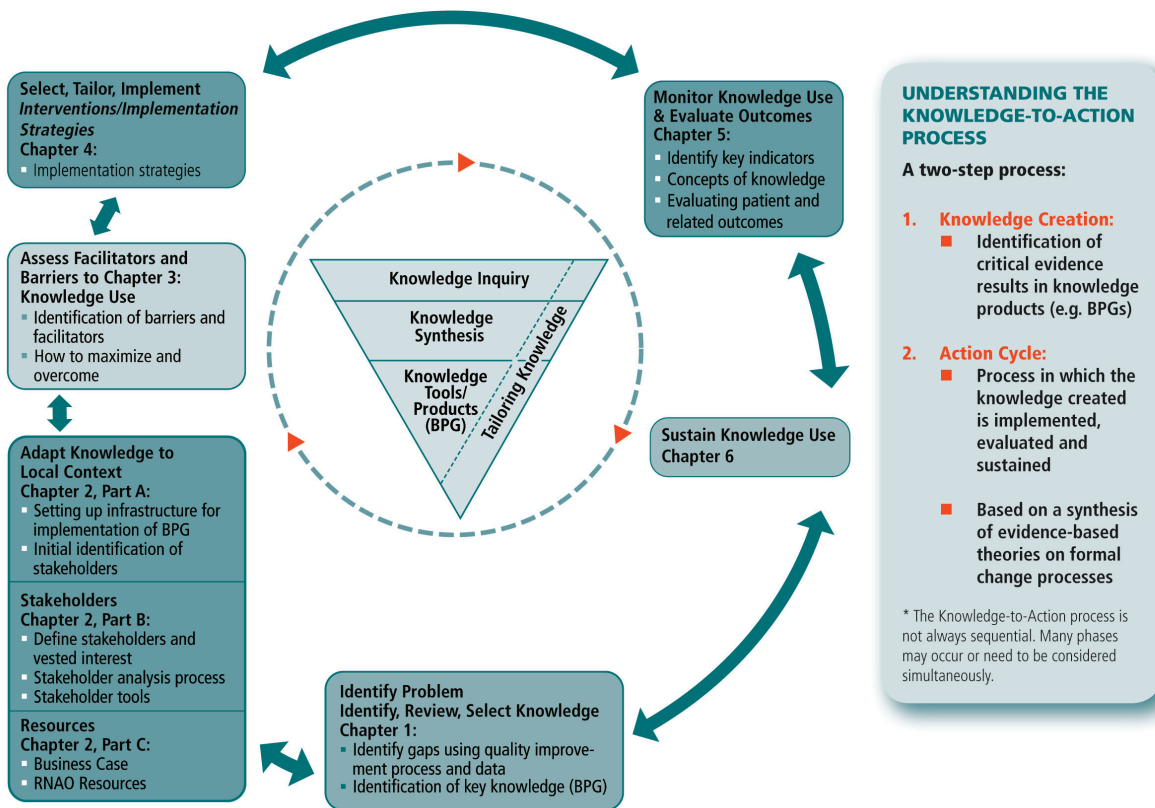
Professor, Nursing and Midwifery Sciences  
Centre for Research and Innovation in Care (CRIC)  
University of Antwerp, Belgium—BPSO Direct-Academic



## BECOMING AN ACADEMIC BEST PRACTICE SPOTLIGHT ORGANIZATION

The process of becoming a BPSO engages academic institutions in a systematic planned change strategy. A *planned change strategy* is the deliberate design and implementation of an innovation. According to Field and colleagues, “conceptual frameworks are recommended as a way of applying theory to enhance implementation efforts” (Field, Booth, Illott, & Gerrish, 2014, p. 1). RNAO’s process of moving BPGs into practice is informed by the Knowledge-to-Action framework (Graham et al., 2006), composed of two components: knowledge creation and an action cycle. The action phase of the Knowledge-to-Action framework is particularly useful for managing change. The use of this framework, illustrated in Figure 9.1, is shown to be effective for guiding the integration of evidence into undergraduate nursing education (Stacey et al., 2009).

## REVISED KNOWLEDGE-TO-ACTION FRAMEWORK



Adapted from "Knowledge Translation in Health Care: Moving From Evidence to Practice."  
S. Straus, J. Tetroe, and I. Graham. Copyright 2009 by Blackwell Publishing Ltd. Adapted with permission.

**FIGURE 9.1** Knowledge-to-Action framework as depicted in *Toolkit: Implementation of Best Practice Guidelines* (RNAO, 2012c).

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The academic BPSO trajectory also benefits from a whole-system approach. This approach assumes that integrating BPGs into curriculum is part of a broader system, inclusive of facilitators and barriers and system dynamics (MacDonald, Edwards, Davies, Marck, & Read Guernsey, 2012). Change within this system is "multi-level, non-linear and multi-directional, with sustainable system adaptations" (Edwards & Grinspun, 2011, p. 4). From this lens, integrating BPGs into a curriculum involves a holistic approach that considers what is happening with students and educators, the academic institution, the health service organizations and its providers, the broader health system, and beyond, to other external systems. Throughout this chapter, reference will be made to action phases of the Knowledge-to-Action framework and to whole-system approaches, which were used whether in Canada, Chile, or Colombia.

## BUILDING A CULTURE OF EVIDENCE

A key step in the BPSO Designation is building a culture of evidence. A culture of evidence is the set of values, beliefs, and norms related to the uptake of evidence-informed clinical, management, and academic decision-making (Fineout-Overholt & Melnyk, 2005). Building a culture of evidence begins

with establishing the relevance of being an academic BPSO. Within the action phase of the Knowledge-to-Action framework, the initial stage is to establish the relevance of the curriculum innovation. Identifying how the integration of BPGs contributes to the strategic direction of the academic institution can inspire interest for change. Strategic goals—such as enriching educators’ pedagogy, enhancing students’ competence in evidence-based practice, and creating a program of research related to the learning and application of evidence in nursing education—are supported with the integration of BPGs in the curriculum.

## REFLECTION

*What rationale would you use to convince your faculty colleagues and administrative leadership to become an academic BPSO?*

Educators and students may also be receptive to deliberately integrating BPGs into their teaching and practice. For instance, knowing that the uptake of BPGs at the bedside lends credibility to decisions about client care may encourage consistent application of accepted standards of care (Friedman et al., 2009; RNAO, 2005), discourages the use of interventions that have little effect and/or cause harm (RNAO, 2005), and ultimately has the potential to improve evidence-based practice, health system, and client outcomes (Athwal et al., 2013; Graham & Harrison, 2005; Prentice et al., 2009; Rempel & McCleary, 2012; RNAO, 2011b). Another important motivator for introducing a curriculum innovation is educators’ recognition of gaps in the curriculum. Curricular reviews are one way to expose areas where teaching and learning about evidence can be strengthened, opening opportunities for integrating BPGs into the curriculum. In addition, having key stakeholders such as educators, students, and practitioners engaged in the change process is a critical component to gaining buy-in and creating cultures of evidence (Missal, Schafer, Halm, & Schaffer, 2010; RNAO, 2012c).

The RNAO *Educator’s Resource: Integration of Best Practice Guidelines* (2005, p. 9) presents a framework shown in Figure 9.2 to guide integration of BPGs into learning events at all levels of the curriculum. Whether used for the curriculum as a whole, a course, or a specific lesson, this framework helps guide integration of BPGs into related learning events or components of the program.



**FIGURE 9.2** Framework for Integration of Best Practice Guidelines into learning events (adapted from RNAO, 2005a, p. 9).

## ESTABLISHING STRUCTURAL SUPPORTS

Establishing structural supports is another key step in becoming an academic BPSO. Structural supports include the processes and resources necessary to engage in the planned change. Within the action phase of the Knowledge-to-Action framework, planning for change within the local context is an essential building block for change and includes identifying stakeholders, developing an action plan, and securing resources. From a whole-systems perspective, the successful integration of BPGs in curricula includes communicating and engaging multiple stakeholders and establishing structural supports across the system.

## IDENTIFYING STAKEHOLDERS

The identification of stakeholders who can potentially influence the curriculum innovation is essential. *Stakeholders* include those who are directly or indirectly affected by the implementation of BPGs in the curriculum or those who have a vested interest in the curricular change (RNAO, 2012c). Understanding stakeholder interests, decision power, plans, and relationships informs the influence, supports, and barriers they may yield when integrating BPGs into the curriculum. Common stakeholders involved in curriculum innovations include nurse educators, students, senior academic administration, health service providers and interdisciplinary teams, regulatory bodies, and accreditation bodies. However, depending on the local context, stakeholders vary amongst academic institutions and yield varying degrees of influence and support. Thus, each academic institution should conduct a stakeholder analysis. Details for conducting a stakeholder analysis are available through the RNAO Implementation Toolkit (RNAO, 2012c).



### REFLECTION

*You are considering the integration of BPGs in your academic unit. Conduct a preliminary stakeholder analysis. Describe each stakeholder's level of support and influence.*

## DEVELOPING AN ACADEMIC BPSO ACTION PLAN

The development of an action plan is part of the structural supports required by all BPSOs and, as outlined in the RNAO Implementation Toolkit (RNAO, 2012c), a critical aspect of moving knowledge into action. For BPSOs, an action plan supports the structured methodology and planned change approaches necessary for sustained BPG use, whether in practice or academia. In academic BPSOs, action plans identify the goals, objectives, and activities that direct changes necessary to integrate RNAO BPGs throughout the curriculum and to achieve the BPSO Designation requirements. Table 9.1 shows an example of an academic BPSO Action Plan with excerpts of goals, objectives, and related activities.

In this example, the *goals* set out the broad results that the academic BPSO aims to achieve. The goals shown in this sample plan related to capacity building, integration, and research were common amongst the three academic BPSOs profiled in this chapter. The *objectives* are shorter-term results representing the stepping stones that will lead to the achievement of the goals. Objectives for the first year of the BPSO related to Goal #1 are shown in the sample plan. The objectives are modified as the academic BPSO continues to progress toward achievement of its overall goals. Examples of objectives for Goal #1 for the second year are included as well in the plan shown here. The *activities* represent the actions that will be taken to successfully achieve the objectives. The sample plan includes activities related to the objectives for the first year for Goal #1.

**TABLE 9.1 ACADEMIC BPSO ACTION PLAN (EXCERPTS) FOR INTEGRATING BPSOS INTO CURRICULUM AND ACHIEVING BPSO DELIVERABLES**

GOALS	OBJECTIVES	ACTIVITIES	LEAD FACULTY	TIMELINES	MONITORING AND EVALUATION
<p>1. To enhance capacity for the uptake of BPGs by students, nurse educators and faculty, and health service providers</p>	<p>YEAR 1</p> <ol style="list-style-type: none"> <li>1. A sustainable infrastructure exists, which supports the integration of BPGs into curriculum and the development of a program of research related to integration of BPGs into curriculum.</li> <li>2. Support is gained from key academic and health service provider stakeholders who will advance and champion the integration of BPGs into curriculum.</li> <li>3. Resources are secured that support BPG integration into curriculum.</li> </ol> <p>YEAR 2</p> <ol style="list-style-type: none"> <li>1. A local network of BPG Champions is established and composed of academic and health service provider stakeholders committed to implementing BPGs into nursing curriculum.</li> <li>2. A collection of human and financial resources exists that supports BPG integration in curriculum and uptake in clinical practice settings.</li> <li>3. BPGs are an integrated component of the academic BPSO's theoretical courses and clinical practice experiences.</li> </ol>	<ol style="list-style-type: none"> <li>1. An academic BPSO steering committee Terms of Reference document is developed.</li> <li>2. Potential members are identified and invited to form the academic BPSO's steering committee inclusive of both academic and health service provider members.</li> <li>3. Dedicated funding is secured for training and other initiatives that support achievement of academic BPSO's goals.</li> </ol>			

*continues*

**TABLE 9.1 ACADEMIC BPSO ACTION PLAN (EXCERPTS) FOR INTEGRATING BPSOS INTO CURRICULUM AND ACHIEVING BPSO DELIVERABLES (CONTINUED)**

GOALS	OBJECTIVES	ACTIVITIES	LEAD FACULTY	TIMELINES	MONITORING AND EVALUATION
2. To integrate BPGs in theoretical courses and clinical practice experiences					
3. To establish a BPG program of research led by the School of Nursing in partnership with other stakeholders					

Determining who is responsible for the actions to be taken, the timelines, and the measures to evaluate progress toward achieving the plan are also key elements of an action plan. Exemplar action plan templates are available on the RNAO website as part of the RNAO Implementation Toolkit (RNAO, 2012c).

## ESTABLISHING AN INFRASTRUCTURE

All three academic BPSOs paid attention to the establishment of an infrastructure in their plans for the curriculum innovation. As noted in the exemplars above, a key infrastructural component is a steering committee to provide the oversight of BPG integration into the curriculum. Steering committees often include curriculum committee coordinators or chairs, other faculty, students, and health service providers. Having a dedicated academic lead who holds accountability for leading the academic BPSOs is also essential. In most academic BPSOs, depending on the size, the curriculum coordinator or program head often assumes this responsibility. However, it is imperative that there is visible support from the program head, and that the BPSO lead has dedicated time to devote to this role.

Champions to mentor, educate, persuade others (Edwards & Grinspun, 2011; Ploeg et al., 2010), and initiate various components of the curriculum innovation are also an important part of the infrastructure. These Champions are particularly relevant at the initial stage of the curriculum innovation, as early adopters influence the attitudes and facilitate stakeholder engagement (RNAO, 2012c). For all academic BPSOs, Champion development is a key start-up activity. Champions can assume a team lead role in the integration of a BPG across the curriculum or the integration of several BPGs across a level of the program. In many academic BPSOs, students have been part of the Champion network (Beijing University of Chinese Medicine, School of Nursing; University of Antwerp, School of Nursing; University of West

### REFLECTION

*What key elements of implementation science as reflected in the Knowledge-to-Action framework are most critical in your setting? How would you see yourself using the model to initiate curriculum change to integrate BPGs?*

Indies School of Nursing). The intent is to create a network of stakeholders to promote the coordination and continuity of integration of BPGs across the curriculum.

Other infrastructure required includes educational, financial, and in-kind resources. *Educational resources* encompass curriculum support tools such as BPG-related instructional and student assessment tools. In some cases, *financial resources* may be needed to support educational training or to support dissemination activities. *In-kind resources* and non-cash forms of support include, for example, the coverage of costs by the university for printing Champion workbooks, or provision of the venue for training sessions.

## INTEGRATING BPGS INTO THE CURRICULUM

A key goal of academic BPSOs is the integration of BPGs into theoretical and practice-based courses. Within the action phase of the Knowledge-to-Action framework, achieving this integration is accomplished by executing the action plan. Moreover, “change is more likely to occur with more planned and focused interventions” (Graham et al., 2006, p. 21). Key strategies to integrate BPGs into curriculum include developing multilevel learning objectives and designing teaching and learning strategies. In addition, in all academic BPSOs, the integration of BPGs becomes a standing item on the curriculum committee agenda, for regular meetings, and in particular at major curriculum review and revision sessions.

## DESIGNING MULTILEVEL BPG-RELATED LEARNING OBJECTIVES

Learning objectives in academic BPSOs feature BPG competencies that students will gain through their nursing education. BPG-related learning outcomes, required at multiple levels of the program, facilitate their integration throughout the curriculum. At the program level, learning objectives refer to broad knowledge, judgment, skill, and attitude competencies expected of students by program end. Given that evidence-based practice is a common undergraduate-level competence expected of nursing students, BPG-related learning objectives are an easy addition to nursing curricula.

At the course level, BPG-related learning objectives provide a guide for identifying the specific BPG knowledge, skills, attitudes, and judgment competences students will gain by the end of the course. In an introductory course, examples of class-level learning objectives include, but are not limited to:

- Students gain increased knowledge about BPGs.
- Students are able to select BPGs relevant to practice.
- Students are able to provide rationale for BPGs selected.
- Students are able to select recommendations to guide person- and family-centred care.
- Students are able to provide rationale for recommendations selected.
- Students integrate BPG recommendations into plans of care for persons and families.

Building on this foundational learning, educators throughout the program tailor course-level learning objectives to align with specific course content. For instance, an appropriate course-level learning objective for a public health course is:

“Students gain competence in the use of health-promoting Best Practice Guidelines.”

Each of the academic BPSOs showcased here designed learning opportunities that enabled students to gradually build competence and confidence in the use of BPGs. Their work reflects a systematic integration that began with an introduction to BPGs, followed by repeated exposure to the range of BPGs and their application with increased detail and complexity, as students progress from a novice to an expert (Benner, Sutphen, Leonard, Day, & Shulman, 2010) in BPG-related undergraduate-level competence.

Course-level learning objectives provide the scaffolding for more specific content-related, class-level learning objectives. Based on the assumption that students gradually gain proficiency (Benner et al., 2010), educators create learning pathways that require students to build on abstract principles about BPGs to refine and expand their evidence-based practice through repetition and increasingly complex experiences. Continuing with the example above, educators tailor class-level learning objectives to align with course-level objective content. Toward achievement of the above course-level objective, the class-level learning objectives refer to specific health promoting BPGs such as: “Students have increased knowledge about the *Primary Prevention of Childhood Obesity* BPG (RNAO, 2014a);” or “Students integrate recommendations from the *Strategies to Support Self-Management in Chronic Conditions: Collaboration with Clients* BPG (RNAO, 2010) into plans of care for persons and families.”

The deliberate design of learning objectives at all levels of the program directs students to systematically gain knowledge and skills in evidence-based nursing, which become an embedded component of their nursing practice.

## DEVELOPING BPG-RELATED TEACHING AND LEARNING STRATEGIES

The academic BPSOs use a range of teaching and learning strategies to integrate BPGs into theoretical and practice-based courses. Christie, Hamill, and Power (2012) specifically argue that nursing students need to be able to value the relevance, authority, and utility of evidence for patient care by embedding learning in both academic and practice-based settings. Thus, integrating BPGs requires a complement of teaching and learning strategies in both theoretical and practice-based courses. As research has demonstrated, teaching and learning about BPGs must also go beyond static methods of teaching to include interactive methods that engage learners (Friedman et al., 2009). For example, at the Beijing University School of Nursing academic BPSO (see Chapter 14, *Overcoming Context and Language Differences: BPSO Trailblazers in China*), with the integration of BPGs into the curriculum, there have been numerous changes in teaching and learning strategies to include use of video, role-playing, simulation, and generally a move to less didactic teaching methods. Many of these changes were inspired by the integration of the *Facilitating Client Centred Learning* BPG (RNAO, 2012a) into the curriculum, which precipitated faculty to apply much of the evidence and some of the recommendations to their teaching methodologies.

## LECTURES

Lectures provide a means for students to get a broad understanding about BPGs. Lectures can contribute to student understanding about the rigorous process used to develop BPGs and their various recommendations. These include *practice recommendations*, or the “statements that guide care based on available research evidence, or on the consensus of experts from best available anecdotal and experiential evidence in the absence of research” (RNAO, 2012c, p. 19). Students can also gain understanding about *organizational and system recommendations*, or the “statements of conditions required for a practice setting that enable the successful implementation of best practice guidelines” (RNAO, 2012c, p. 19), and educational recommendations, or “statements of educational requirements and educational approaches/strategies for the introduction, implementation and sustainability of best practice guidelines” (RNAO, 2012c, p. 19). Students can also grasp the scope and types of evidence that inform the recommendations through lectures.

## INTERACTIVE CLASSROOM ACTIVITIES

Engaging students through interactive classroom activities provides a way for them to gather additional information, conduct problem-solving, and share or articulate knowledge gained. Having students work together to complete an assessment of an RNAO BPG using the AGREE II Tool (Brouwers et al., 2010) is one example of an interactive classroom activity that requires students to navigate through a BPG, encouraging them to become more familiar with a guideline and standards for guideline development. The use of case studies creates opportunities for students to examine and apply BPG recommendations in plans of care. Simulation and role-playing can also be used to encourage students to develop skills in planning the application of BPG recommendations or to articulate rationale for selecting specific BPGs in a plan of care. At the University of West Indies School of Nursing BPSO in Jamaica, faculty revised their simulation laboratory teaching-learning guides to incorporate all the clinical BPGs as they relate to critical knowledge and skills reinforced through simulated teach-back sessions. At the Beijing University School of Nursing BPSO, faculty use videos and role-playing to

teach concepts of the pain management (RNAO, 2013a) and client-centred learning BPGs (RNAO, 2012a).

## PRE- AND POST-CLINICAL CONFERENCE DISCUSSIONS

Pre- and post-clinical conference discussions provide students with opportunities to critically think through the application of BPG recommendations in their plans of care, consider modifications based on the clinical and patient context, defend the clinical decisions they made, and evaluate the outcome of BPG-related nursing interventions. Students can also focus on investigating how practice setting policies and procedures align with best practice evidence. Featuring a BPG as a focal point for discussion during a pre- or post-clinical conference also helps students to identify potential areas for practice change and consider how such change could be initiated.

### REFLECTION

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*What teaching and learning strategies are used in your setting to support students' understanding and their application of research evidence in practice? How can these strategies be used to integrate BPGs into theoretical courses and into practice-based courses?*

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## ACCESS TO BPG-RELATED RESOURCES

Creating access to BPG-related resources is also essential to supporting student learning about BPGs. Citing BPGs as key course references and including RNAO's BPG implementation support tools are common in academic BPSOs. BPGs are a standard part of student readings, starting in the first year of the nursing program and continuing until graduation. Learning Management Systems (LMS) provide a means to organize these BPG resources and provide BPG-related links for easy access. The use of the RNAO BPG App (<http://rnao.ca/bpg/pda/app>) further enables students to access content from all RNAO guidelines, whether they are in the classroom or at the bedside.

## ASSIGNMENTS AND TESTS

BPG-related assignments provide another means for students to reflect upon, visualize the application of, and critique BPGs. Students may incorporate BPGs into learning plans or write a reflective journal related to a BPG important to their area of nursing practice. Developing plans of care that include pertinent BPGs is a common expectation in academic BPSOs. Tests or exam questions provide an opportunity for students to demonstrate critical thinking and judgment related to BPGs.

### REFLECTION

*How could clinical assignments for students in various years of the curriculum be structured to assist in the application of BPGs in the clinical setting across sectors?*

## REINFORCING SUPPORTS AND OVERCOMING CHALLENGES FOR SUSTAINED CHANGE

Another critical stage of the action cycle is assessment of the conditions or factors that can influence the outcome of integrating BPGs into a curriculum. According to Graham et al. (2006), those who plan change “control the variables that increase or decrease the likelihood of the occurrence of change” (p. 20). Dependent upon local context, these conditions and factors can serve as facilitators that promote the success of integration or barriers that interfere with integration. Academic BPSOs look to reinforce the conditions or factors that will support BPG integration, while taking steps to mediate or eliminate those conditions and factors that interfere with integration plans. From a whole-systems perspective, the successful integration of BPGs in curricula includes anticipating those variables and developing and adapting plans based on context.

Provincial, national, or even international initiatives can serve to support a decision related to BPG integration. Initiatives such as academic reviews, changes to licensing examinations, and changes to the migration policy for health professionals may arouse interest in new curriculum innovations such as BPG integration and becoming a BPSO. For instance, a provincial review of nursing education in Nova Scotia, Canada, by the Department of Health and Wellness included a recommendation that schools of nursing “identify and implement a set of common, best-practice guidelines across the schools and with clinical partners” (Cruikshank & Ells, 2014, p. 27). In the case of Colombia, BPG integration in nursing curricula was a partial response to changes in the professional regulations, requiring schools of nursing to prepare future nurses for critical and reflective decision-making. In the case of Italy, it was faculty-driven, to strengthen evidence-based practice in the curriculum and also to be consistent with its hospital service partner that was becoming a service BPSO. In Portugal, the Atlantica University Nursing Department was motivated by the desire to strengthen its own curriculum and lead and role-model evidence-based education and practice in the country.

Successful curricular innovations align with the mission, vision, values, and overall strategic directions of academic institutions and schools of nursing. Common to higher education institutions is a quest to provide quality education that will prepare graduates to serve and contribute to society. All academic BPSOs are strengthening their contributions to this quest through the integration of BPGs in nursing

education. This curricular innovation serves to develop a community of nurses who use the most current and rigorous evidence that assists with clinical decision-making and encourages consistent high-quality care of persons and families.

The capacity for stakeholders to meet the demands required for planning and integrating BPGs into their everyday educational practice also impacts the outcomes of BPG implementation. Adequate knowledge is necessary for success, while lack thereof can impede progress. As in health service BPSOs (RNAO, 2012c), resistance to change in the academic setting can stem from lack of knowledge or misinformation. Consistent with all academic and service BPSOs, the three nursing schools featured in this chapter found that providing information and training sessions through the Champions program is the best way to address knowledge gaps. With knowledge, access to resources and supports, academic BPSO mentors, and initial successes, administrators and educators come to realize that the academic BPSO Designation is the most effective way for students to learn the research base of nursing practice and actually experience it through active use of BPGs. It is also an effective way to align the entire program with best evidence in nursing and healthcare and foster an integrated curriculum.

With many opportunities for faculty engagement in all aspects of BPG development, uptake, and evaluation, faculty gain avenues for scholarly contributions. Educators may be concerned about time constraints or including additional content into curricula that are already overloaded. Educators resisting change for these reasons can be made aware of how BPGs may easily be integrated into specific courses and that BPGs are an effective tool to gain competence in evidence-based practice. Creating a map that depicts how BPGs can be threaded throughout the curriculum is also useful. Many of these implementation strategies, from managing challenges and barriers to designing EBP- and BPG-integrated curricula, are outlined in the *Educators' Resource: Integration of Best Practice Guidelines* (RNAO, 2005).

A unique challenge for academic BPSOs is the need to secure opportunities for students to apply BPG competences in the practice setting. Health service organizations and practicing nurses have varied knowledge and experience related to BPG implementation. In some cases, health service organizations are also BPSOs with ample experience, while other organizations and their health service providers may be unfamiliar with or not using BPGs or evidence-based practice.

Maintaining positive relationships with health service partners is critical to the quality of the student learning experience in the practice setting. Sharing curriculum outcomes, including with health service partners as external members of curriculum committees, and providing education or workshops about BPGs can facilitate collaborative approaches for student and staff learning. In some cases, academic institutions (such as those in Belgium, Canada, Chile, China, Colombia, Jamaica, and Spain) were the impetus for the formation of health-service and academic partnerships, which simultaneously implement BPGs. In Italy, academic and service partners applied to be BPSOs at the same time, planning to implement the same BPGs in the same timeframes, with both organizations benefitting from joint training and preparation activities. These partnerships result in collaborative work on BPG implementation and curriculum integration, creating a synergy that maximizes learning for students and evidence-based practice for staff. The

 **REFLECTION**

*Consider how academic institutions and health services work together to support students' evidence-based learning and practice. What are some ways such a partnership and the BPSO Designation could be used to strengthen or improve students' use of BPGs and staff's use of BPGs?*

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opportunity allows students to see how evidence, as learned in the classroom, is applied in practice. The following quote from the academic and service BPSOs in Jamaica attests to the mutual benefits of service academic partnerships in the BPSO Designation process.

*“The BPSO Designation has assisted us to strengthen our curriculum framework through integration of BPGs in many courses, and to provide our students and faculty with research-based resources to support nursing as a knowledge profession. It has also been mutually beneficial to both UWISON and the University Hospital of West Indies to work together as BPSOs, focused on the same BPGs. Our students see BPGs being used in practice, which strengthens the focus of evidence-based practice in nursing.”*

—Steve Weaver, PhD, MPH, BScN, RN  
Head of School, UWISON  
Director, WHO Collaborating Centre for Nursing and Midwifery Development in the Caribbean  
BPSO Sponsor



—Eulalia Kahwa, PhD, BScN (hon), RN  
Senior Lecturer and Graduate Program Coordinator  
The University of West Indies School of Nursing (UWISON), Mona

—Mrs. Claudett James, MScHA, BScN, RN, RM, JP  
Senior Director, Nursing  
University Hospital of the West Indies  
Jamaica

## BPG INTEGRATION IN ACADEMIA: MEASURING SUCCESS

Evaluation of nursing education (Institute of Medicine [IOM], 2011; Kitson, Wiechula, Conroy, Muntlin Athlin, & Whitaker, 2013) and practice (Hanrahan et al., 2015) is a standard for quality, excellence, and innovation. Moreover, the three featured schools of nursing recognize that evaluating the outcomes of nursing education and practice makes nurses' contributions to health outcomes more visible (RNAO, 2012c). Within the action phase of the Knowledge-to-Action framework, evaluation is necessary to determine whether the action taken made a difference. Equally important is planning for sustainability of successful actions.

The effective achievement of educational innovations, such as BPG integration in nursing curricula, relies on quality evaluation that demonstrates the contributions of the new educational practice. Approaches to evaluation should begin when planning the curriculum innovation. An evaluation plan serves as a bridge between the planned innovation and the expected outcomes by making explicit the goals, objectives, planned activities, what will be monitored, the use of the evaluation results, and for what audience (Centers for Disease Control and Prevention's Office on Smoking and Health and Division of Nutrition, Physical Activity, and Obesity, 2011). As part of the planning process, collecting baseline data is of prime importance to serve as a comparison with subsequently acquired data.

The evaluation plan should derive from an evaluation framework to guide questions, outcome indicators, and data sources and their collection methods. As with the evaluation of BPG implementation in health service organizations (RNAO, 2012c, 2015a), Donabedian's (1988) evaluation framework can similarly guide the evaluation of academic BPSO actions. The Donabedian evaluation framework is conceptualized into three categories: structure, process, and outcome.

## DONABEDIAN EVALUATION FRAMEWORK

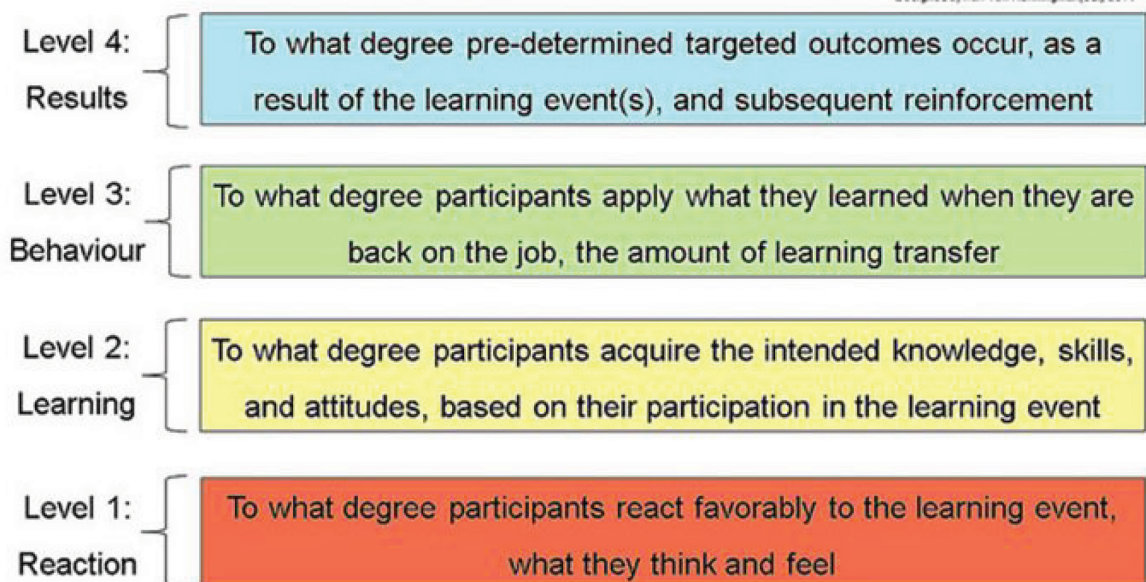
*Structure* measures quantify aspects within the teaching and learning environment, including the classroom and practice setting. Structure measures are inclusive of the resources (e.g., equipment, placement opportunities); the attributes of educators (e.g., knowledge, skills, attitudes, judgment); and program structure (e.g., curriculum model, learning objectives).

*Process* measures quantify how teaching-learning transpires. Examples of process measures include pedagogical approaches and the quality of the teaching and learning experience, including its appropriateness, acceptability, consistency, and accuracy.

*Outcome* measures quantify the end points of the education innovation. While outcome measures resulting from BPG implementation in health service organizations focus on person and family health outcomes, the focus of measures linked to the integration of BPGs in curriculum is on learner outcomes. More specific measures of learner outcomes are conceptualized in Kirkpatrick's (1994, 2007) Four Level Training Model, illustrated in Figure 9.3. This model depicts measures related to reactions, learning, behaviours, and educational and healthcare system change. Relevant learner outcomes are students' appropriation of critical and reflexive thinking, their acquisition of theoretical knowledge, their application in practice, and their sustained application in the practice setting following graduation.

### Kirkpatrick's Learning Evaluation Model

Designed by Ivan Teh RunningMan, July 2014



Source: Donald L. Kirkpatrick, "Evaluating Training Programs: The Four Levels (1<sup>st</sup> Edition)" by Berrett-Koehler Publishers, November 1994, ISBN-13: 978-1881052494

**FIGURE 9.3** Kirkpatrick's Four Level Model for Evaluating Training Programs.

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To determine the impact of the BPSO Designation on the curriculum, academic BPSOs are utilizing various evaluation methods based on course and class-level objectives, as well as the goals and activities of their BPSO action plans. Reflecting Kirkpatrick's (1994, 2007) learning evaluation model, as depicted in Figure 9.3, these approaches to evaluation for students include measurement of:

- Knowledge, through testing that incorporates information about evidence-based practice (EBP) in general and about each of the specific RNAO BPGs studied
- Attitudes, through attention to the students' ability to seek out and inquire about supporting evidence for practice
- Application, through observation of students' use of RNAO BPGs in patient care and written care plans, student discussions pre- and post-clinical experience, and written reflections
- Broader impacts on patients and the organization, through observation of changes in patient outcomes, and the student's ability to discuss BPGs and or lead change in the workplace related to EBP



## REFLECTION

*How do the Kirkpatrick and Donabedian models of evaluation compare? What are their similarities and differences? What benefit is there to using both models in education evaluation related to integration of BPGs in the curriculum?*

During curriculum meetings and overall end-of-semester reviews, faculty examine the impact of BPGs on the curriculum and how and to what extent EBP and BPGs have been incorporated. In the schools of nursing featured in this chapter, specific evaluation plans have been developed from the outset that enable measurement of EBP and RNAO BPG competence in students, as well as faculty integration of EBP and RNAO BPGs throughout the overall curriculum, each program year, and each course.

Evaluation research related to the integration of BPGs in undergraduate nursing curriculum is in its infancy, with few specific, observable, and measurable markers to monitor and track progress and accomplishments attributable to the use of BPGs to enhance learning about evidence-based practice. This gap contributes to the challenges experienced by RNAO's Nursing Quality Indicators for Research and Evaluation (NQuIRE) comprehensive data system (see Chapter 16, *Evaluating BPG Impact: Development and Refinement of NQuIRE*) in identifying and defining appropriate education indicators. In partnership with the academic BPSOs, the development of educational indicators is progressing and will undoubtedly break new ground for nursing academia. Identified indicators will be included in the NQuIRE data system, and academic BPSOs will join health services organizations in collecting, analyzing, and reporting comparative data arising from the integration of BPGs in undergraduate nursing curricula.



## REFLECTION

*Describe how academic BPSOs can determine the impact of BPGs on the curriculum and how the BPSO Designation might enhance the relationship amongst teaching, practice, and research.*

## SUPPORTING EVIDENCE-BASED EDUCATION THROUGH RESEARCH

Some scholars argue that teaching and research are “analogous practices with a common essential goal: the advancement of learning and knowledge” (Light & Calkins, 2015, p. 345). Others suggest that “good research is a prerequisite for good teaching, and the quality of teaching relies heavily on the

instructors' ability to create as well as communicate knowledge" (Bak & Kim, 2015, p. 845). Educators who use their research as part of the course material introduce students to the most updated knowledge and expose them to current concepts, ideas, and solutions to real-life, practical health problems. "Conversely, teaching may enrich research by encouraging professors to clarify their thinking and describe their reasoning to new audiences" (Bak & Kim, 2015, p. 845). All three academic BPSOs in this chapter are engaged in evidence-based and BPG-related research. Educators lead programs of research with other academic departments, service organizations, government partners, and students related to the development, implementation, evaluation, and dissemination of BPGs. Creating such research opportunities aligns with universities' common strategic priority to enhance research clusters and engage students in faculty research.



## REFLECTION

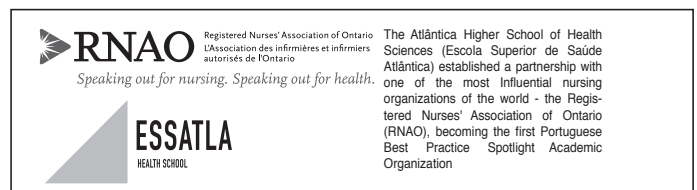
*Identify ways in which the research agenda in a school of nursing can be enriched through integration of BPGs in the curriculum and the BPSO Designation.*

## CONCLUSION

Academic BPSOs support the intent of schools of nursing to develop a community of nurses who think critically, engage effectively in problem-solving, and use the most current and rigorous evidence to ensure the public receives the best possible nursing care. Figure 9.4 reflects the pride of the Atlantica Higher School of Health Sciences as an Academic BPSO. BPGs are a tool for teaching and learning about evidence that has international applicability. Alongside other forms of evidence, their integration into curricula provides a solid way for students to gain competence in identifying, implementing, evaluating, and critiquing best practice and its application in the care of persons and families. Academic BPSO Designation as a curriculum innovation that embraces BPG integration throughout the curriculum requires a deliberate planned change that includes capacity building, stakeholder analysis, management of facilitators and barriers, quality evaluation, and plans for sustainability. Academic BPSOs provide a means to engage academe and health services in their common goals to prepare students for evidence-based practice; to support sustained evidence-based practice in the workplace and thus close the service-academic gap; and to establish programs of research for enhanced evidenced-based teaching, learning, and practice.



**R N A O**  
BEST PRACTICE  
SPOTLIGHT  
ORGANIZATION  
PORTUGAL



**FIGURE 9.4** Atlantica Higher School of Health Sciences Academic BPSO.

## KEY MESSAGES

- In the academic setting, Best Practice Guidelines serve as a foundational tool for teaching and preparing nursing students for evidence-based practice.
- The Registered Nurses' Association of Ontario's (RNAO) Best Practice Spotlight Organization Designation engages academic institutions in a dynamic and planned change strategy leading to the establishment, implementation, and sustained integration of Best Practice Guidelines in the curriculum.

- Key strategies to integrate Best Practice Guidelines into curricula include developing multilevel learning objectives and designing teaching and learning strategies.
- The successful integration of Best Practice Guidelines in curricula requires anticipating factors and conditions that can increase or decrease the likelihood of the curriculum innovation. It also necessitates adapting integration plans to the local context.
- Evaluation research related to the integration of BPGs in undergraduate nursing curriculum is in its infancy, with a need to develop specific, observable, and measurable indicators to monitor and track progress and accomplishments attributable to the use of Best Practice Guidelines in curricula.
- Academic BPSOs engage in evidence-based and BPG-related research that can advance both learning and knowledge development.
- The quality of nursing education and undergraduate and graduate nurse competence in evidence-based practice is enhanced through the integration of BPGs in curricula.

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