



Occupational Health Competency Framework for Public Health in Québec

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Occupational Health Competency Framework for Public Health in Québec

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We wish to thank the many people who collaborated on developing this competency framework for Québec's public health network in occupational health, the Réseau de santé publique en santé au travail (RSPSAT).

We first wish to thank all of the participants in the discussion groups which provided the initial basis for the work on the competency framework begun in the spring of 2011. Next, we wish to thank the members of the Groupe de travail du référentiel de compétences for their precious collaboration and availability throughout the process. Thanks also go to the coordinators at the Réseau de santé publique en santé au travail and, in particular, to the Table de concertation nationale en santé au travail for their support and commitment at all stages of the project.

This framework was made possible through funding from the Direction générale de la santé publique (DGSP) of the Ministère de la Santé et des Services sociaux (MSSS) and is part of a broad initiative to support the development of public health competencies. Many national, regional and local partners participated in this collaborative effort.

EXECUTIVE SUMMARY

Context and purpose of the framework

The underlying impetus of the occupational health framework is a desire to enact change. This tool aims to address the modernization challenges outlined in the *Programme national de santé publique* (MSSS, 2008) [Québec's updated public health program] and the *Plan stratégique du Réseau de santé publique en santé au travail* (MSSS, 2010) [the strategic plan of Québec's public health network in occupational health, and it offers a wide range of opportunities for organizational and professional development, including staffing, development of a joint training plan, personnel recruitment and assessment, career management, orientations for university programs, harmonization of practices, etc. Moreover, the use of the interdisciplinary professional situations of the RSPSAT as a blueprint for describing the competencies highlights the framework's collective nature and allows for implementation of a comprehensive competency development plan.

The competency framework development process

The professional situations—essential for developing the framework—are gathered from the field, by recruiting workers to participate in the process of reflecting on their own professional practices. Thus, from January to March 2011, consultations were held with four discussion groups from various regions in Québec (Côte-Nord, Saguenay–Lac-Saint-Jean, Montréal, Abitibi-Témiscamingue, and Mauricie et Centre-du-Québec) and with representatives of the occupational health professions (physicians, ergonomists, coordinators, clinical nurses and nursing consultants, occupational hygiene technicians and occupational hygienists, research officers). Thirty-four (34) participants helped create the database of occupational health professional situations (raw data). Meantime, a working group was established and activities resumed in 2012.

The working group tasked with developing the occupational health competency framework was representative of the national, regional and local population of the occupational health network. It was composed of a public health director, a regional coordinator, a local coordinator, and representatives from the occupational health teams, i.e., physicians, clinical nurses and nursing consultants, occupational hygiene technicians, occupational hygienists, ergonomists, research officers and audiologists, all from various regions in Québec, and all of whom had at least five years' experience in occupational health.

The situations gathered from focus groups were then analyzed and classified into families of situations. From each family of situations emerged a competency. The reference definition for the framework is that of Tardif (2006), according to which each competency is developed through the effective mobilization and combination of a variety of internal resources belonging to the individual and external resources present in the environment (experts, peers, references, software, information and communication technologies, etc.), within a family of situations. This is why the identification of the resources needed to develop the competency was an important part of the process.

Three families of professional situations

The iterative nature of the process involved frequent back-and-forth interactions between the various stages of the project. An integral part of the entire process was the validation of results by representative groups of individuals. Furthermore, with the aim of standardizing certain terms and, thereby, developing a shared vision, the working group held many discussions on terminology. These efforts allowed tacit knowledge, the raw data on professional situations from May 2012, to be converted (as of January 2013) into explicit knowledge, i.e., the formulation of RSPSAT competencies and their precise descriptions. The three families of professional situations retained were:

- Development of our services as a RSPSAT
- Contribution of our expertise as a RSPSAT for the management of occupational health risks
- Support for workplaces during the change process

The *Development of our services as a Réseau de santé publique en santé au travail (RSPSAT)* family comprises all the professional situations related to monitoring, planning, organization, implementation and evaluation.

The *contribution of our expertise as a RSPSAT for the management of occupational health risks* family comprises all the professional situations for which the RSPSAT provides expertise in managing occupational health risks. More specifically, it involves carrying out workplace characterization activities and finding ways to eliminate, control and reduce risks to worker health. This family is characterized by its technical and scientific content as prescribed in the *Programme de santé spécifique à l'établissement* [institution-specific health program], the *Pour une maternité sans danger* program [For a Safe Maternity Experience program], the notifiable diseases information system, etc.

The *Support for workplaces during the change process* family comprises all the professional situations related to providing support to actors during the process of introducing changes in the workplace. Change is a key part of improving occupational health and mobilizing workplaces. This family of situations is unique in that the statements outline how activities are operationalized rather than any content to be acquired. Hence, it focuses on the social and relational aspects of occupational health, within the context of an evolving shared vision.

The identification of the internal and external resources needed to master these competencies was useful in creating a portrait of each competency. The internal resources include **declarative knowledge**¹ (knowledge), **procedural knowledge**² (know-how or experience) and attitudes (soft skills, values). For their part, the external resources are those found in the environment and which are necessary to the development of the competency, including, for example, guidelines (laws and regulations, orientations, policies), tools

¹ Knowledge that enables a person to construct a mental representation of objects and facts. Concepts, propositions, sets of interrelated propositions, images, and metacognitive knowledge are examples of declarative knowledge (Brien, 1997).

² Know-how or knowledge that enables a person to act upon reality through operators and operations. Policies, procedures, cognitive and metacognitive strategies are examples of procedural knowledge (Brien, 1997).

(software, technologies), databases, bibliographic references, networks and partners, and training sessions.

Competency framework assimilation process

The first step in the framework assimilation process involved the series of validations carried out among the representative groups. The members of the working group then presented the framework in a more formal manner to both their work teams and their professional associations, whereas the regional and local occupational health managers were, for their part, invited to attend an information session. A meeting of the Table de concertation nationale en santé au travail (TCNSAT) [national issue table on occupational health] and a round of visits to five professional associations were also organized.

To ensure the framework's sustainability, a number of activities need to be planned, such as, for example, the implementation of mechanisms for updating the competency framework. The occupational health competency framework must be an evolving tool that systematically incorporates changes.

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LIST OF INITIALISMS AND ACRONYMS

ASSS	Agence de la santé et des services sociaux [health and social services agency]
CSA	Canadian standardization association
CSS	Comité de santé-sécurité (corporate) [occupational health and safety committee]
CSSS	Centre de santé et de services sociaux [health and social services centre]
CSST	Commission de la santé et de la sécurité du travail [occupational health and safety commission]
DGSP	Direction générale la de santé publique [public health branch]
ILO	International Labour Organization
INSPQ	Institut national de santé publique du Québec [Québec's public health expertise and reference centre]
ISO	International standardization organisation
MADO-C	Système d'information pour les Maladies à déclaration obligatoire (MADO) d'origine Chimique (or physique) [notifiable diseases information system for diseases of chemical (or physical) origin]
MSSS	Ministère de la Santé et des Services sociaux [department of health and social services]
PMSD	<i>Pour une maternité sans danger</i> program [For a Safe Maternity Experience program]
PSSE	<i>Programme de santé spécifique aux établissements</i> [institution-specific health program]
RSPSAT	Réseau de santé publique en santé au travail [Québec's occupational health public health network]
SISAT	Système d'information en santé au travail [occupational health and safety information system]
TCNSAT	Table de concertation nationale en santé au travail [national issue table on occupational health]
TCNSP	Table de coordination nationale de santé publique [national issue table on public health]
WHO	World Health Organization

INTRODUCTION

This document describes the approach used to develop the occupational health competency framework of the Réseau de santé publique en santé au travail (RSPSAT). As such, it serves as a companion document to the competency framework, and is intended mainly for professionals, physicians, and managers within the RSPSAT.

The occupational health competency framework is an essential tool for developing competencies—a key element in occupational health. This tool will facilitate the modernization of the Plan stratégique du Réseau de santé publique en santé au travail (TCNSAT, 2010) and the implementation of the Programme national de santé publique.

The document is comprised of three chapters. The first chapter examines the general context of public health, and then focuses specifically on occupational health, providing a brief description of the organizational structure of the RSPSAT, several current and future professional challenges tied to occupational health practices, the academic path of the professionals involved, and continuing education.

The second chapter discusses several useful concepts and examines the competencies and competency framework from the perspective of the frame of reference used.

Finally, the third chapter describes the methodology used in designing the framework and presents the results of the analysis. At the end of the chapter, the framework is presented in table format.

1 BACKGROUND

In an effort to effectively implement the *Programme national de santé publique* (PNSP), the provincial initiative for the adaptation of professional practices and management to the new implementation context created by the Public Health Program proposed the development of competency frameworks for several fields.³ The occupational health competency framework project falls within this perspective and was approved by the Table de concertation nationale en santé au travail (TCNSAT) in 2010.

This project was made possible with funding from the Direction générale de la santé publique (DGSP) of the Ministère de la Santé et des Services sociaux (MSSS) and the Institut national de santé publique du Québec (INSPQ). The DGSP tasked the INSPQ with carrying out the project, based on the frame of reference for developing a competency framework, presented in the INSPQ's publication on the competency-based approach.

According to the Collectif des directeurs de santé publique (2010, p. 10), the network has gained extensive and specialized expertise across the field of occupational diseases over the last thirty (30) years—expertise that must be used in the most efficient way possible. To this end, intervention priorities must be reviewed and established using a public health approach, which implies the need for different intervention mechanisms.

Professional practices can be updated continuously with the implementation of an ongoing competency development plan that reflects the reality in and future perspectives of the field.

- Given this aim, the competency framework developed in collaboration with relevant stakeholders, in the current Québec context, and based on authentic professional situations within the RSPSAT, is the ideal tool for ensuring change. This framework, which stems from a desire to enact change, will serve to meet the modernization challenges outlined in the *Programme national de santé publique* (MSSS, 2008) and the *Plan stratégique de santé au travail* (RSPSAT, 2010).

Each framework development project identified by the MSSS had its own schedule and timeline. For instance, the environmental health framework (Laliberté, 2012) had already been published, when work on the occupational health framework was still in progress. The experience gained from the earlier project was a great aid in developing the occupational health framework, as will be the case for the upcoming frameworks on prevention and health promotion and infectious diseases.

An initial inter-framework analysis shows that there are certain overlapping themes, which will be exploited to optimize future competency development activities.

³ Environmental health, population-based responsibility, occupational health, prevention and health promotion, infectious diseases.

1.1 THE OCCUPATIONAL HEALTH FIELD

In 1995, the ILO/WHO⁴ Joint Committee on Occupational Health met to develop a consensus statement on occupational health:

The main focus in occupational health is on three different objectives:

- (i) the maintenance and promotion of workers' health and working capacity;
- (ii) improvement of the working environment and work to become conducive to safety and health;
- (iii) development of work organizations and working cultures in a direction which supports health and safety at work. Such a culture is reflected in practice in the managerial systems, personnel policy, principles for participation, training policies and quality management of the undertaking (WHO, 2003, p.1).

In Québec, the ultimate goal of an occupational health and safety program is to eliminate, at the source, risks to the health, safety and physical well-being of workers. Accordingly, the Occupational Health and Safety Act has, for more than 30 years, defined and outlined the responsibilities of employers and workers in achieving this goal.

Within this context, the RSPSAT's mission is as follows:

The RSPSAT, together with its partners and in accordance with the legal authority granted to it by the LSST [Occupational Health and Safety Act], the LSP [Public Health Act] and the LSSSS [Act respecting Health Services and Social Services], strives to protect the health of workers in Québec by ensuring that workplaces have the support needed to fulfil their obligations concerning the prevention of occupational injuries (MSSS, 2011, p. 5).
[Translation]

The RSPSAT also undertakes activities related to health assessment and monitoring, health promotion, surveillance and research, as well as the development and maintenance of competencies (MSSS, 2008). Occupational risk factors include exposure to chemical, physical, biological, ergonomic, organizational, psychosocial, and accidental hazards.

1.2 ORGANIZATIONAL STRUCTURE OF OCCUPATIONAL HEALTH

In Québec, the CSST is the agency that oversees all aspects of occupational health and safety in the province and that, under contract with the MSSS, delegates responsibility to the Agences de la santé et des services sociaux (ASSS) for the implementation of occupational health services in each region.

The RSPSAT is made up of several bodies (ASSS, MSSS, INSPQ, and CSSS), each with their own responsibilities but all of them pursuing a common objective: to reduce risks and prevent injuries among workers in various economic activity sectors in Québec (Ministère de la Santé et des Services sociaux, 2011). The workplaces affected by the RSPSAT's interventions are those targeted by the CSST and are typically among the priority groups identified by legislation and in management agreements.

⁴ The ILO/WHO Joint Committee is a collaborative, conjoint body of the International Labour Organization and the World Health Organization.

At the provincial level, the RSPSAT is assisted in its work by the TCNSAT. Created in 2000, the TCNSAT is a tripartite group comprising all of the regional occupational health coordinators, two MSSS representatives including one physician advisor, and one INSPQ representative from the Unité de santé au travail [occupational health unit]. There are six professional associations under its direction representing the different occupational health professions (occupational medicine, nursing, occupational hygiene, ergonomics, research, medicine as it relates to the *For a Safe Maternity Experience* program). The TCNSAT itself is governed by the Table de coordination nationale de santé publique (TCNSP), which oversees the appointment of a Director of Public Health to guide the activities of the TCNSAT.

The TCNSAT tables opinions and positions on national issues related to occupational health, and accordingly makes recommendations to the TCNSP on the overarching orientations intended to guide the RSPSAT. It participates in strategic discussions with its primary partner, the CSST, and in numerous joint committee initiatives, and it also serves as a forum for discussion and decision-making that aims to promote more coherence in occupational health actions and harmonize practices.

At the regional level, the public health branches of the ASSS coordinate implementation of the occupational health program, in collaboration with CSSS representatives. In 2012, there were 39 CSSS program representatives and 28 service locations in Québec (CSST, 2012-a).

Their primary goal is to develop PSSEs, or institution-specific health programs. These programs include activities related to risk identification and assessment, as well as to information and training sessions on work-related risks, their consequences and the control measures to protect against worker exposure. Occupational disease screening activities, worker health surveillance, and first aid and emergency response support activities are also carried out under these programs (Drouin et al., 2004).

However, in order to achieve these objectives, it is essential to obtain the participation and involvement of all partners. Therefore, much of the work is done in close collaboration with the CSST and with numerous national and regional partners, such as the Institut de recherche Robert-Sauvé en santé et sécurité du travail (IRSST), joint sector-based associations (associations sectorielles paritaires or ASPs), prevention mutuals, etc.

1.3 OCCUPATIONAL HEALTH PROFESSIONALS

The RSPSAT community is comprised of a diverse range of stakeholders: managers, physicians, occupational hygienists and occupational hygiene technicians, ergonomists, nurses, clinical nurses and nursing consultants, research officers, audiologists, administrative support staff, etc.

The academic pathways of stakeholders, whether through college or university, can vary widely from one to another.

For instance, occupational hygiene technicians and several categories of nurses have a college diploma, oftentimes coupled with an undergraduate certificate in occupational health.

Clinical nurses and nursing consultants usually have a Bachelor of Science in Nursing, but must often pursue additional training in occupational health and safety to better understand the realities of practice. They sometimes complement their initial training with graduate studies (e.g., a Master's degree or a graduate diploma in health and safety or a related field such as management, public health, nursing sciences, or health law). In fact, the Bisailon et al. (2010) study found that basic training does not sufficiently equip nurses with the requisite knowledge for health promotion and disease prevention and for the application of population-based approaches.

Physicians initially train in general medicine, after which they can opt to pursue an additional 2-to-4-week rotation in occupational health or to continue with graduate studies (e.g., a Master's degree or graduate diploma in occupational health and safety, toxicology, public health, ergonomics, etc.) to expand their knowledge and improve their skills. The Université de Montréal received accreditation from the Royal College of Physicians and Surgeons of Canada to launch its Occupational Medicine specialization program in 2013. However, a forthcoming report on the challenges of recruiting and maintaining medical practitioners with expertise in occupational health reveals “the need for a training program that is tailored to the roles and competencies of attending physicians” [Translation] (MSSS, working document, 2013, p. 15).

Occupational hygienists start with a Bachelor's degree in a science, such as biology, chemistry or a related field like toxicology, and may go on to complete a Master's degree in occupational hygiene.

For their part, ergonomists can complement their undergraduate degree with a graduate diploma in ergonomics, ergonomic intervention, occupational health and safety, or ergonomics and innovation.

The RSPSAT research officers come from a wide range of university backgrounds. As is the case for all occupational health professionals and managers, and depending on their specific needs, research officers can also choose from a wide selection of university programs—in occupational health planning, programming and assessment, and human resources management—to complement their basic training, regardless of the field.

In short, this professional diversity highlights the importance of developing a common vision of public health interventions in occupational health, thus promoting professional decompartmentalization and interdisciplinary teamwork.

1.4 CONTINUING EDUCATION

Expertise in occupational health has developed gradually over time. Since the introduction of occupational health teams in the 1980s, practitioners have felt the need to update their knowledge and continuously learn throughout their professional careers, so as to be able to adapt to the ever-changing realities of practice.

A broad range of continuing education activities have been developed:

- the Démarche provinciale de signalement des déficiences susceptibles de nécessiter une mesure de prévention [provincial process for identifying deficiencies that may require

preventive measures] – (physicians, nurses, hygiene technicians and professionals, managers)

- change management and management of the human component of change – (managers)
- sound intensity measurements (using an intensity probe) – (hygiene technicians and professionals)
- screening and medical surveillance in occupational health (reference framework and its application) – (physicians, nurses, hygienists)
- ergonomics and the prevention of musculoskeletal disorders – (mainly ergonomists but available to all network stakeholders)
- basic principles of program evaluation – (research officers)
- basic principles of worker health surveillance – (research officers)
- hearing protection program
- motivational interviewing.

Despite efforts to ensure the needs of the entire network are met, many of the training opportunities are fragmented by profession and, as such, fail to take into account the interdisciplinary nature of real-life situations and to develop training plans for the field as a whole. This framework provides a systemic perspective, to help ensure training needs are met effectively.

- It also aligns with the vision of the new strategic plan introduced by the TCNSAT in 2010, during the regional meetings at which the following occupational health challenges were identified:
- recognition and promotion of expertise
- improvement of services and expertise
- interdisciplinary teamwork
- harmonization of practices
- recruitment
- continuing education
- succession training

On a final note, the numerous retirements and the insufficient number of candidates to fill vacancies are a real concern. Indeed, succession training remains a topic of current interest. However, even though the competency framework is an indispensable tool, it is important to ensure that teaching strategies are varied, flexible and tailored. Mentoring, for instance, is an effective form of support for new occupational health professionals.

Furthermore, with the advent of information and communication technologies (ICTs), a number of innovative approaches to developing competencies have emerged: e-learning, digital learning objects, virtual communities of practice, etc. Accessible anywhere and at any time, these approaches can help ensure equity among professions and throughout the different regions of Québec. These practices provide an opportunity for learning how to work as part of a network, or what Le Boterf (2006) calls the "linking of intelligence." He adds that the collective intelligence that emerges from a group can be both a path to efficiency and a factor tied to the smooth functioning of an organization.

2 COMPETENCIES AND COMPETENCY FRAMEWORKS

This chapter presents a brief inventory of the occupational health frameworks identified in the scientific literature, followed by the reference framework which served as the basis for developing this competency framework.

2.1 PUBLIC HEALTH, OCCUPATIONAL HEALTH AND OCCUPATIONAL HEALTH AND SAFETY FRAMEWORKS

A brief review of the literature on existing frameworks in the field of public health, in general, and in the field of occupational health and occupational health and safety (Appendix 10), in particular, reveals that very few competency frameworks have been developed based on the approach described in this document. Most of the works consulted present frameworks of professional activities.

Moreover, there is little or no information provided about the methodology used to develop the frameworks. All too often, they are simple lists of tasks, or roles and responsibilities, the only variation being in how they are presented and where emphasis is placed. For example, some frameworks consisted uniquely of internal resources, illustrated by an exhaustive list of knowledge, know-how, and soft skills. None of them contained information about external resources. For all these reasons, it is difficult to compare the existing frameworks.

In the case of occupational health and safety, the frameworks are designed specifically for workplace actors, i.e., the employer, workers, members of the occupational health and safety (OHS) committee, etc. The key characteristic of these frameworks is that they are based on standards.⁵ More recently in 2008, the Bureau de normalisation du Québec (BNQ) [Québec standardization office] released its *Prevention, Promotion and Organizational Practices Contributing to Health in the Workplace* standard, better known as the "Healthy Enterprise" Certification. For Conso (2011) and the Centre patronal de santé et sécurité du travail du Québec (2007) [Québec employers centre for occupational health and safety], the aim of all occupational health and safety frameworks is to foster a common culture among employers and employees, by clearly outlining each party's roles and responsibilities.

Note that the list of frameworks presented in Appendix 1 is not intended to be **exhaustive**.

2.2 REFERENCE FRAMEWORK FOR DEVELOPING THE COMPETENCY FRAMEWORK

In *L'approche par compétences, un levier de changement des pratiques en santé publique au Québec*, Brahimi (2011) draws on the ideas of a number of authors to set forth a reference framework for developing public health competency frameworks. The competency framework development process (Figure 1) is based on a dynamic definition of a competency, as described by several authors (Le Boterf, 2006; Tardif, 2006; Joannert, 2009). The document's reference definition is that of Tardif, who defines a competency as complex knowledge of how

⁵ ISO 9000 is concerned with quality management, ISO 14000 is concerned with environmental management, and CSA Z1000 (March 2006) is Canada's occupational health and safety management standard (Commission de la santé et de la sécurité du travail, 2012-b).

to proceed, based on the effective mobilization and combination of a variety of internal and external resources within a family of situations.

- More specifically:
- **Know-how** is tied to action.
- Competency is **complex**, that is, it requires the integration of several elements of know-how.
- The **internal resources** that a person must mobilize include knowledge, know-how (procedures, experience) and soft skills (attitudes, values).
- The **external resources** are those found in the environment (example: professional practice guides, the système d'information en santé au travail (SISAT), the Portail de santé au travail, professional networks, etc.).
- Various **professional situations** grouped into families constitute **families of situations**.
- To gain an understanding of the methodological process of developing frameworks, it is necessary to examine the concept of the professional situation. **Professional situations** are situations people encounter in their work and must manage effectively. To do so, they must successfully mobilize a group of internal and external resources. For this reason, it is necessary to identify these resources with reference to a variety of professional situations within a field. Consequently, it is understood that the professional situations gathered serve as the raw material from which the framework is produced and that it is essential that they represent the reality of working in the field of occupational health. The best way to identify professional situations experienced in the field by occupational health workers is to involve them in this exploration.

In brief, the professional situations are gathered from the professional community (gather information), by recruiting workers in the field to participate in the process of reflecting on their own professional practices. The situations gathered are then analyzed (process information) and classified into families of situations. From each family of situations emerges a competency characteristic of the field. Since each competency is developed through the effective mobilization and combination of a variety of internal resources belonging to the individual and external resources present in the environment, these are identified and presented in the competency framework in the form of a table. This provides a portrait of all the competencies relevant to the field.

Figure 1 lists all the steps in the framework development process. Each of these steps will be described in greater detail in the section on methodology which follows.

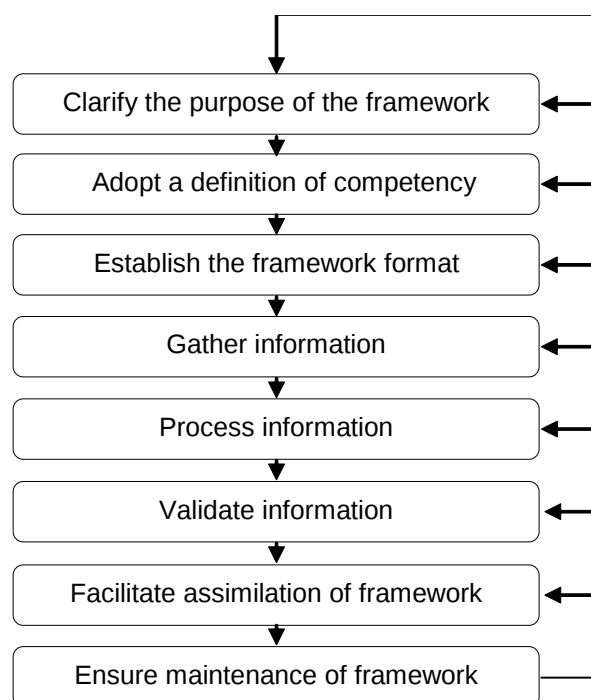


Figure 1 Diagram of the competency framework development process

Source: (Jouvenot & Parlier, 2005) in Brahimi (2011).

Note that the competency framework is an essential tool for designing a competency development plan for the RSPSAT. As shown in Figure 2, the information contained in the framework, in this case the internal and external resources, is used to analyze the training needs. In the event the analysis reveals the need for training, a national plan focused on the cross-cutting resources could be developed.

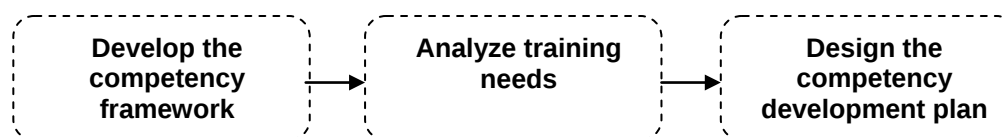


Figure 2 From competency framework to competency development plan

3 METHODOLOGY AND RESULTS

This section describes the process through which the framework was developed and presents the main results of the investigation.

3.1 WORKING GROUP

The working group tasked with developing the occupational health competency framework was established in May 2012. This group, representing the diversity of the national, regional and local population of the occupational health and safety (OHS) network, was composed of a public health director, a regional coordinator, a local coordinator, and representatives of occupational health teams, i.e., physicians, clinical nurses and nursing consultants, occupational hygiene technicians, occupational hygienists, ergonomists, research officers and audiologists. These individuals come from various regions in Québec and have at least five years' experience in occupational health.

The group was managed by an INSPQ project leader whose role was to coordinate key activities for the development of the framework. Accordingly, she was responsible for chairing team meetings and recording their minutes. The goal of the first meeting was to introduce the group members to the process of designing a framework and to clarify the purpose of this tool. In this regard, all members agreed that this framework stems from a desire to enact change and, as such, is uniquely positioned to meet the modernization challenges outlined in the PNSP and the *Plan stratégique du Réseau de santé publique en santé au travail* (MSSS, 2010). This framework serves as an interdisciplinary tool that can be applied, regardless of the discipline (physicians, professionals, etc.). By providing a portrait of competencies for the entire field as opposed to discipline-specific competencies, it allows for a systemic vision of the RSPSAT. In the members' opinion, the overarching purpose of the framework is to develop a comprehensive competency development plan. They also note that it is a valuable tool that can be used in personnel recruitment and succession training.

The outputs of the group activities (grouping of situations into families of situations, definition of families of situations, identification of internal and external resources) were submitted to OHS representatives for validation. The group was responsible for adopting or rejecting the proposed changes.

In addition to coordination, the project leader was responsible for encouraging group members to become agents of change, by explaining the merits and benefits of the competency framework to peers and within their workplace environment. To this end, at a meeting of the TCNSAT, each member gave a brief account of his or her involvement in designing the framework and of the expectations for this tool.

An educational engineering specialist from INSPQ provided the group with methodology- and education-related assistance throughout the project. Moreover, one person was appointed to handle all the logistics so as to facilitate communication within the network, particularly when setting up discussion groups and during the multiple interactions with the TCNSAT.

The group members' roles are described in Appendix 2.

3.2 GATHERING OF INFORMATION

With a view to compiling a list of field-specific professional situations, four focus groups were organized between January and March 2011.⁶

To ensure a balanced representation of the diverse disciplines and intervention environments, the groups were composed of physicians, ergonomists, coordinators, clinical nurses and nursing consultants, occupational hygiene technicians and occupational hygienists, and research officers from several regions in Québec (Côte-Nord, Saguenay–Lac-Saint-Jean, Montréal, Abitibi-Témiscamingue and Mauricie et Centre-du-Québec). The list of all the people who participated in these focus groups is presented in Annex 3.

At each of the meetings, the groups received brief training on the competency-based approach and its key concepts, and they were introduced to the process of designing a competency framework, as set out by the INSPQ. This fundamentally important activity allowed participants to develop a common vision and understanding before engaging in the dynamic, interactive process of gathering data. The data were compiled using the nominal group technique (NGT), which incorporates both individual and group reflection on all the situations identified.

- This investigation resulted in a list of 127 raw statements, which were analyzed as explained below.

3.3 ANALYSIS OF PROFESSIONAL SITUATIONS IDENTIFIED

The professional situations were initially analyzed based on the three criteria identified in the reference framework for developing competency frameworks (Brahimi, 2011). The professional situations had to be:

- **specific** to occupational health in the context of public health in Québec; hence, not specific to any one discipline;
- **problematic**, in other words, situations that required an action and the mobilization of a certain number of internal and external resources in order to be handled effectively; and
- **emblematic**, or recurring situations.

Similar situations were then grouped together and reformulated, as necessary, to ensure all statements would be interpreted in the same way by everyone (clarity criterion). Also of concern was the degree of generality and independence of the statements. While not exhaustive, the list was enriched with additional professional situations. It is important to note that the final list was produced as a result of detailed, thorough analyses. To this end, a series of validations were conducted with a large number of people. The result was a list of 36 professional situations that were subsequently validated and approved by the working group. These situations are classified into families of situations as explained below.

⁶ The focus groups were held one year prior to the establishment of the working group but were partly conducted by the group members themselves (coordinator, educational engineering specialist, and logistics manager).

3.4 THE THREE FAMILIES OF SITUATIONS

The thirty-six (36) professional situations were categorized into three main families of situations:

- development of our services as a RSPSAT
- contribution of our expertise as a RSPSAT for the management of occupational health risks
- support for workplaces during the change process
- The three categories are further divided into sub-categories for easy reading.
- A brief definition and the professional situation statements are provided for each family of situations. Annex 4 contains detailed definitions of the various categories and sub-categories, as well as descriptions of the context of application.

3.4.1 Development of our services as a RSPSAT

The *Development of our services as a Réseau de santé publique en santé au travail (RSPSAT)* family comprises all the professional situations related to monitoring, planning, organization, implementation and evaluation, as explained below:

Monitoring

- Provide portraits of the health status of workers and of their environment to assist with decision-making
- Participate in modernizing the common monitoring plan for the occupational health component
- Make use of information systems

Planning

- Plan occupational health projects
- Influence the orientation of partners and decision-makers with respect to occupational health
- Play an advocacy role with partners and clients for issues relating to occupational health

Organization

- Develop activity plans and reports for the RSPSAT
- Establish RSPSAT priorities based on the strategic plan
- Develop interdisciplinary professional practice guides for occupational health
- Integrate new occupational health actors
- Collaborate in the development, sharing and management of competencies
- Participate in the continuous improvement of RSPSAT practices
- Implement occupational health projects
- Integrate health promotion strategies into occupational health practices

Evaluation

- Participate in achieving the objectives set out in the management and accountability agreement (specifications)
- Incorporate an evaluation component at the outset of all projects and programs
- Evaluate the institution-specific health programs

3.4.2 Contribution of our expertise as aRSPSAT for the management of occupational health risks

The *Application of our expertise as aRSPSAT for the management of occupational health risks* family comprises all the professional situations for which the RSPSAT provides expertise in managing occupational health risks. More specifically, it involves carrying out workplace characterization activities and finding ways to eliminate, control and reduce risks to worker health. This family is characterized by its technical and scientific content as prescribed in the *Programme de santé spécifique à l'établissement* (PSSE), the *Pour une maternité sans danger* program (PMSD), the notifiable diseases information system (MADO), etc., and includes the following:

PSSE and other workplace interventions

- Conduct a preliminary visit
- Document the health risks associated with an occupational exposure
- Analyze data (i.e., environmental, medical, risk factors for musculoskeletal disorders, etc.), in collaboration with the workplace
- Develop the institution-specific health program
- Initiate workplace deficiency notification procedures in accordance with the Act Respecting Occupational Health and Safety (Section 123)
- Plan the various workplace interventions, i.e., environmental, medical, etc.
- Monitor worker health
- Agree on mechanisms for monitoring workplace interventions

PMSD

- Process applications for the preventive withdrawal and reassignment of pregnant or breastfeeding workers

MADO

- Manage and investigate all cases of notifiable diseases and of threats to public health in accordance with the Public Health Act

3.4.3 Support for workplaces during the change process

- The *Support for workplaces during the change process* family comprises all the professional situations related to providing support to actors during the process of introducing change in the workplace. Change is a key part of improving occupational health and mobilizing workplaces. This family is more concerned with the manner in which activities are implemented than with specific content, and, as such, focuses on the social and relational aspects of occupational health, within the context of an evolving shared vision. This third family of situations includes the following:

Collaboration and partnership

- Establish the first point of contact in the workplace
- Reach an agreement with the employer, worker representatives or the OHS committee members on the objectives and implementation of the institution-specific health program
- Develop, in collaboration with the workplace, the various occupational health activities required in the short, medium and long term, taking into account the reality in the field

Mobilization and accountability

- Support the OHS committee members, employer or worker representatives to ensure they can effectively manage risks in their environment
- Help find solutions to problematic situations in collaboration with partners, peers and workplace actors
- Advise workplace actors on implementing proposals for change related to occupational health
- **Involve workplace actors with evaluation activities related to the implementation of the institution-specific health program**

Strengthening of the culture of prevention

- Develop information and training activities in collaboration with workplace actors, based on their specific needs and the risks in their environment
- Design tools for communicating information or creating awareness about occupational risk factors, in collaboration with the relevant stakeholders, and appropriate to the workplace and context
- Conduct learning activities or sessions
- Train multiplying agents in the workplace

3.5 THE THREE OCCUPATIONAL HEALTH COMPETENCIES

The three families of professional situations led to the identification of three occupational health competencies, as shown in Figure 3.

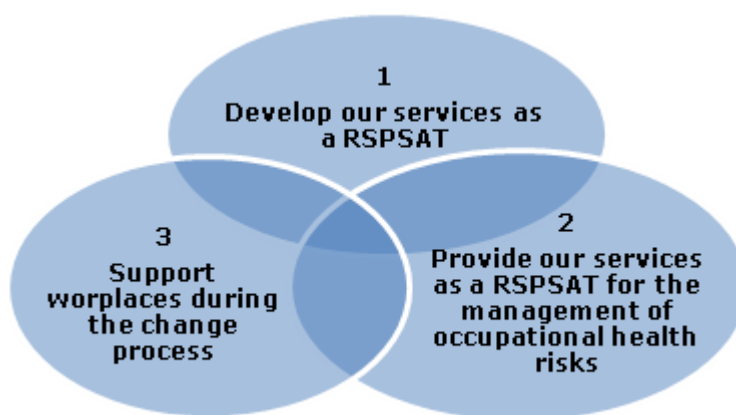


Figure 3 The RSPSAT's three competencies

These three mutually inclusive and interdependent competencies represent the entire field of occupational health in Québec.

In order to provide descriptions of these competencies, it is first necessary to identify the internal and external resources likely to be combined and mobilized in the development of a competency and, as such, improve its application in a professional setting, as explained in the following chapter.

3.6 INTERNAL AND EXTERNAL RESOURCES

According to our reference definition, individuals select, mobilize and combine a series of internal resources (knowledge, know-how and soft skills) and external resources (documents, software, etc) in order to effectively manage the situations they encounter in the course of their work. In doing so, they develop their competencies. Therefore, the full value of identifying these resources becomes apparent when learning needs are being defined.

The identification of internal and external resources took place in several stages and included numerous validations with the working group, content experts and the TCNSAT. This activity provided a forum for the useful exchange of ideas and constructive debates. Given the wide array of resources that can be identified for each professional situation, the working group created a framework for selecting resources based on the four criteria below:

- accessible to everyone
- essential, i.e., in the case of an external resource, the document or law identified must be considered a prerequisite
- recognized by the RSPSAT

- specific to occupational health, i.e., common to at least two occupational health disciplines

The following were also classified as external resources: guidelines such as laws and regulations, orientations, policies, tools, databases, reference documents, networks and partners, and training sessions.

Subsequently, a final effort was made to standardize the terminology used with that employed in the environmental health competency framework. The goal was to make it easier to establish links between the two frameworks as well as with other frameworks being developed.

Tables 1 to 3 present the entire competency framework. Under each competency is the list of professional situations and the associated internal and external resources. The overlap of certain resources is characteristic of their cross-cutting nature.

3.7 ASSIMILATION AND SUSTAINABILITY OF OCCUPATIONAL HEALTH COMPETENCY FRAMEWORK

To ensure the occupational health framework is effectively assimilated and, as such, integrated into the network, a number of training activities focused on the competency-based approach and the competency framework development process were conducted. Considering the importance of securing stakeholder involvement in the innovation integration process, the local and regional occupational health managers were invited to attend the training session and discuss the challenges associated with an occupational health competency framework.

Note that the numerous validations performed with large numbers of people were a key part of the framework assimilation process. The individuals involved in every step of the process and those who were needed only at specific times were keen to report on the fruitful exchanges of ideas, but also on the difficulty of developing a common vision and, more specifically, on the need to do so.

Always with the intent of encouraging people to embrace this paradigm shift, the project was presented to five professional associations⁷ at a meeting of the Table de concertation nationale en santé au travail (TCNSAT). Discussions about several aspects of the framework allowed for a considerable amount of fine tuning.

A communication plan is currently being developed to ensure the beneficial and synchronized mobilization of all network levels and partners. Also being studied is the option of assigning a team the task of managing any changes arising from the implementation of the framework and evaluating their impacts. A potentially significant impact of this framework would be the recognition of occupational health expertise by the various RSPSAT partners, including the Commission de la santé et de la sécurité du travail, the Institut de recherche Robert-Sauvé en santé et sécurité du travail, the Associations sectorielles paritaires, the Conseil du patronat, the labour unions, and the universities.

Considering the impending modernization of the occupational health and safety system, there is a pressing need to develop mechanisms for updating the competency framework so as to ensure its sustainability. Recall that the main purpose of this competency framework is to produce an analysis of training needs and, subsequently, an ongoing competency development plan for the entire network. As mentioned previously, the resources common to all frameworks could be the subject of joint training initiatives to be included in the national plan. This approach would not only optimize the financial resources available for developing competencies, but also enhance recognition of the shared competencies of PNSP actors.

⁷ The five associations in attendance were the Comité médical provincial en santé au travail du Québec, the Comité médical provincial d'harmonisation du Programme *Pour une maternité sans danger*, the Regroupement des agents de recherche en santé au travail, the Regroupement des représentants en ergonomie, and the Comité provincial des soins infirmiers en santé au travail.

Table 1 Competency 1: Develop our services as a Réseau de santé publique en santé au travail

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
A-MONITORING • Provide portraits of the health status of workers and of their environment to assist with decision-making Participate in modernizing the common monitoring plan for the occupational health component Make use of information systems (CSST portal, SISAT, MADO, document repositories...)	• Data sources (A,C,E)* • Input guides • SISAT functions • Criteria for privacy, security and availability of data • Epidemiological and biostatistical concepts (A,C) • Public health (PH) monitoring concepts and methods • Common monitoring plan • Health determinants (A,B,D) • Health monitoring (A,B) • Scientific publication databanks: PubMed, Medline, Ovid... (A,C) • Workplaces and their particularities (A,B,C,D,E) • Clinical screening services • Change management concepts (A,B)	• Analyze needs (A,B,C)* • Analyze data banks (A,C) • Produce a systematic review (A,B,C) • Validate data (A,C,E) • Collect data • Analyze data (A,B,C,E) • Use data analysis software: SPSS • Make use of information systems • Develop an input guide • Use oral communication strategies (A,B,D) • Produce written communication tools adapted to various audiences (A,B) • Draft specialized documents and reports • Use collaborative techniques • Work on interdisciplinary teams (A,B,C,D)	• Cooperation (A,B,C,D,E)* • Discipline (A,E) • Ability to synthesize (A,C,E)* • Sense of ethics (A,C) • Open-mindedness (A,B,C,D,E) • Perseverance (A,C,D,E) • Professionalism (A,B,C,D,E) • Scientific diligence (A,B,C,D,E) • Sense of fairness (A,B,C,D,E) • Organizational abilities (A,C,E) • Flexibility (A,B,C,D) • Transparency (A,B,C,D,E)	GUIDELINES, ORIENTATIONS, POLICIES • Public Health Act • PNSP, MSSS, updated 2008, (A,B,C,)* • RSPSAT strategic plan, 2010 (A,B,C,D) TOOLS AND DATABASES • Databases: EQCOTESST, SISAT, Fichier des lésions professionnelles [work injury file]-CSST, MADO-C, EQSP, Fichier des tumeurs [tumour file]... (A,B,C) • Santécom network's documentation centres (A,C,E) • <i>Enquête québécoise sur la santé de la population</i> [Québec population health survey]. Institut de la statistique du Québec, 2010 • <i>Canadian Community Health Survey</i>. Statistics Canada—annual (A,C) • IRSST: scanning tools • Tools and input guides for the various systems (A,C,E) • Infocentre portal: Common monitoring plan • Portail SAT [OHS portal] (A,B,C,E) • Computer terminal for SISAT use • SISAT: Provincial team, committee of experts, users committee, regional and local pilot projects (A,B,C,D,E)

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – Monitoring; B – Planning; C – Organization; D – Implementation; E – Evaluation.

Table 1 Competency 1: Develop our services as a Réseau de santé publique en santé au travail (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
A-MONITORING (CONT.)	- Roles and responsibilities of team members and main partners CSST, IRSST... (A,B,C) - Collaborative practices	- Use collaborative practices for project development (A,B,C,D)* - Develop a knowledge translation plan (A,E)		BIBLIOGRAPHIC REFERENCES <i>Plan commun de surveillance de l'état de santé de la population et de ses déterminants 2004-2007</i> [joint plan for monitoring the health status of the community and its determinants]. DSP, MSSS and INSPQ collaborators, 2005 (A,C)* - Noyau minimum commun [minimum common core]. MSSS, Arcand et al., 2008 (A,C) <i>Pour guider l'action. Portrait de santé du Québec et de ses régions</i> [a guide to action: public health portrait of Québec and its regions]. MSSS, 2011 <i>Le travail : un déterminant important de la santé</i> [work: an important health determinant]. INSPQ, Funès, A., 2012 (A,D) NETWORKS AND PARTNERS - Partners: IRSST, CSST, Clinical screening service, university researchers, expert advisors in INSPQ... (A,B,C,E) - Table de concertation nationale en surveillance [national issue table on surveillance] - DSP surveillance teams TRAINING - INSPQ methodological workshops (A,B,D,E) - Tutorials and video capsules: SISAT...
B-PLANNING Plan occupational health projects	- Political, economic and organizational issues - Implementation strategies: lobbying, advocacy...	- Analyze political issues (B,C) - Create strategic alliances - Use tools for analyzing health policy interventions	- Consistency (B,D,E)* - Self confidence - Creativity (B,C) - Diplomacy (B,E) - Dynamism (B,D) - Commitment (B,C)	GUIDELINES, ORIENTATIONS, POLICIES Laws and regulations pertaining to occupational health (B,C,D,E)

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – Monitoring; B – Planning; C – Organization; D – Implementation; E – Evaluation.

Table 1 Competency 1: Develop our services as a Réseau de santé publique en santé au travail (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
B-PLANNING (CONT.) Influence the orientation of partners and decision-makers with respect to occupational health Play an advocacy role with partners and clients for issues relating to occupational health	- Management agreement and specifications (B,C,E)* - Particularities of occupational health - Emerging problems (B,C)* - Project management methods and tools (B,D) - Decision-making process - Principles of persuasive communication - Concepts underlying media communications	- Plan implementation strategies - Involve key actors from RSPSAT, workplaces and among partners: CSST, ASP..., in occupational health action priorities (B,C,D*) - Apply project management methods (B,C,D,E) - Manage change (B,C,D,) - Resolve conflicts - Plan social marketing strategies - Formulate arguments - Apply negotiation strategies (B,C,E) - Use coaching strategies (B,C,E)	- Leadership (B,C,E) - Respect (B,C,D) - Vigilance	BIBLIOGRAPHIC REFERENCE “Outils d’analyse et d’intervention politique en santé.” In <i>La santé politique. Petit manuel d’analyse et d’intervention politique en santé</i>. Québec: GRIPSUL, Boyer, O’Neil & Gosselin (1997) NETWORKS AND PARTNERS - Social media TRAINING - Gestion de projets [Project management]. Brio Conseils, 2012 (B,D)* - Gestion du changement dans la gestion de projet [Managing change through project management]. Brio Conseils, 2012 (B,D) - Gérer le volet humain du changement [Managing the human component of change]. HEC, Bareil, C., 2011 (B,D)
C-ORGANIZATION Develop activity plans and reports for the RSPSAT	- Basic public health concepts - Laws and regulations pertaining to occupational health - Breakdown of network organization according to targeted problems in occupational health	- Establish priorities - Plan activities - Develop strategies for implementing activities - Analyze performance indicators	- Positive attitude - Curiosity - Listening skills (C,D)* - Empathy - Humility - Judgement (C,E) - Critical thinking	GUIDELINES, ORIENTATIONS, POLICIES - Management agreement and specifications 2013 (C,E) - Global management policy TOOLS AND DATABASES - Scientific publication databanks: PubMed, Medline, Ovid...

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – Monitoring; B – Planning; C – Organization; D – Implementation; E – Evaluation.

Table 1 Competency 1: Develop our services as a Réseau de santé publique en santé au travail (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft-skills Attitudes	
C-ORGANIZATION (CONT.) Establish RSPSAT priorities based on the strategic plan Develop interdisciplinary professional practice guides for occupational health Integrate new occupational health actors Collaborate in the development, sharing and management of competencies Participate in the continuous improvement of RSPSAT practices	• RSPSAT governance • Human, material and financial management concepts • Integration policies • Learning theories and teaching strategies • Communities of practice • Reflective practice concepts • Learning evaluation methods • Public health decision-making processes • Data analysis methods • Evaluation methods and tools (C,E)* • Negotiation concepts • E-learning tools • Scientific publication databanks: PubMed, Medline, Ovid... • Continuous improvement process and quality criteria for occupational health (C,E)	• Interpret performance indicators • Manage human, material and financial resources (C, E) • Implement human resources development strategies • Design data collection tools • Use data collection techniques • Analyze data banks • Draft critical reviews of the literature • Use online collaborative tools • Develop educational materials • Design in-person and online training activities • Use group facilitation techniques • Work in teams to integrate new workers • Design an integration policy		TOOLS AND DATABASES (CONT.) • Web platforms of the IRSST, the AQHSST, universities... • Website of the International Labour Organization (ILO) http://www.ilo.org/ • Integration programs • Ongoing professional development plan for occupational health BIBLIOGRAPHIC REFERENCES • <i>La planification de la santé. Concepts. Méthodes. Stratégies.</i> Éditions Nouvelles. Montreal, Pineault, R. & Daveluy, C., 1995 (C,E) • <i>Épidémiologie appliquée.</i> 2nd Edition. Chenelière. Simpson, A., Beaucage, C., Bonnier, Y., 2009 • <i>Guide de formation à l'intention des nouveaux intervenants en santé au travail</i> [training guide for new occupational health actors]. <i>Promotion de la santé au travail</i> [health promotion in the workplace]... ASSS de la Montérégie, Gervais, L., 2007 (C,D) • Synthesis tool. <i>Guide d'appropriation des savoirs pour l'orientation des infirmières et infirmiers en santé au travail</i> [guide to knowledge assimilation for orienting nurses in occupational health]. CPSISAT, 2011. • <i>Guide d'appropriation des savoirs pour l'orientation des infirmières et infirmiers en santé au travail.</i> CPSISAT 2009 • <i>Cadre de référence sur l'analyse des besoins de formation</i> [reference framework for training needs analysis]. INSPQ, Labesse et al., 2008

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – Monitoring; B – Planning; C – Organization; D – Implementation; E – Evaluation.

Table 1 Competency 1: Develop our services as a Réseau de santé publique en santé au travail (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
C-ORGANIZATION (CONT.)		- Design a quality control process - Manage the quality of RSPSAT services: scope, implementation and monitoring of evaluation tools... - Manage the quality of interventions through continuous improvement (C,E)* - Implement formative evaluation strategies (C,E)*		<i>Guide pour l'accompagnement professionnel d'un changement</i>. Ste-Foy: Presses de l'Université du Québec, Lafortune, L., 2008 NETWORKS AND PARTNERS - INSPQ knowledge translation support team - Association des professionnels en santé du travail [association of occupational health professionals] - Networking: ASPs (joint sector-based associations) and prevention mutuals, AQHSST... (C,D)*
D-IMPLEMENTATION Implement targeted occupational health projects Integrate health promotion strategies into occupational health practices	- Health promotion philosophy and strategies and health promotion models - Theoretical foundations of the population-based approach in public health - Social marketing - Literacy concepts - Healthy environment concepts - Knowledge of occupational health fields of expertise - Implementation of evaluation projects and processes	- Mobilize teams - Use evidence - Define performance indicators - Apply results-based management - Solve problems - Carry out evaluation of project implementation - Develop information tools		BIBLIOGRAPHIC REFERENCES <i>Guide pratique : Pour mieux réussir vos communications médiatiques en promotion de la santé</i>. RRSS de Montréal & INSPQ, Caron-Bouchard & L. Renaud, 2002 <i>Ottawa Charter for Health Promotion</i>. Ottawa: World Health Organization (WHO). Health and Welfare Canada & Canadian Public Health Association. WHO, 1986 - Standard CSA Z1000-06: Occupational Health and Safety Management. Canadian Standards Association. Mississauga, Ont., CSA, 2006. vii, 45 pp. - Standard BNQ 9700-800: Prevention, Promotion and Organizational Practices for Health in the Workplace ("Healthy Enterprise"). Bureau de normalisation du Québec. Québec, QC BNQ, 2008, 26 pp.

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – Monitoring; B – Planning; C – Organization; D – Implementation; E – Evaluation.

Table 1 Competency 1: Develop our services as a Réseau de santé publique en santé au travail (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
E-EVALUATION Participate in achieving the objectives set out in the management and accountability agreement (specifications) Incorporate an evaluation component at the outset of all projects and programs Evaluate the institution-specific health programs (PSSE)	• Evaluation strategies • Management cycles • Project planning • Types of planning: operational, tactical... • Performance indicators and measurement tools • Elements of occupational health programs and projects • Knowledge of PSSE	• Plan evaluation strategies • Formulate objectives and define indicators • Develop occupational health programs and projects • Carry out occupational health interventions • Evaluate the interventions carried out • Write an evaluation report • Use oral and written strategies to disseminate results		TOOLS AND DATABASES • Canevas de reddition de compte [canvas of accountability], J. Foisy, CSST • List of institutions within the framework of special projects • Grille d'évaluation de la conformité de la saisie dans le SISAT – Établissement avec PSSE [grid for evaluating compliance of data input in the SISAT – institutions with a PSSE]. RARSAT Dupont, P., 2011 • Adaptation de la grille d'évaluation de la conformité des PSSE [adaptation of the grid for evaluating compliance of PSSEs]. Laval ASSS, Arbour, G., 2011.

Table 2 Competency 2: Provide our expertise as a RSPSAT for the management of occupational health risks

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
A-PSSE AND OTHER WORKPLACE INTERVENTIONS Conduct a preliminary visit Document the health risks associated with an occupational exposure Analyze data (i.e., environmental, medical, risk factors for musculoskeletal disorders, etc.), in collaboration with the workplace Develop the institution-specific health program (PSSE) Initiate workplace deficiency notification procedures in accordance with the <i>Act Respecting Occupational Health and Safety</i> (Section 123)	- Political, economic and organizational issues - Legislative framework for occupational health (A,B,C)* - Workplaces and their particularities - Data collection rules and techniques (A,B,C) - SISAT: surveillance, management of electronic medical files (A,B,C) - Industrial toxicology concepts (A,B,C) - Occupational hygiene concepts (A,B,C) - Ergonomics concepts (A,B,C) - Occupational psychosocial risks concepts (A,B,C) - Occupational medicine concepts (A,B,C) - Professional risk management concepts (A,C) - Risk and limits assessment methodology	- Characterize the workplace - Use a risk identification grid - Collect data (A,B,C)* - Enter input data (A,B,C) - Validate data (A,C,E) - Analyze data (A,B,C) - Draft reports - Draft syntheses - Develop interprofessional and interpersonal contacts - Work on interdisciplinary teams (A,B,C) - Use collaborative practices for project development (A,B,C) - Use strategies for mobilizing workplace actors - Develop reflective practices	- Civility - Cooperation (A,B,C)* - Creativity - Intellectual curiosity (A,C) - Diligence (A,B) - Diplomacy - Listening skills (A,B,C) - Empathy (A,B,C) - Ability to synthesize - Sense of ethics (A,B,C) - Initiative - Leadership - Open-mindedness (A,B,C) - Perseverance - Professionalism (A,B,C) - Prudence - Respect - Scientific diligence (A,C) - Sense of fairness (A,B,C) - Sense of observation - Organizational abilities (A,B,C) - Flexibility - Transparency (A,B,C)	GUIDELINES, ORIENTATIONS, POLICIES - OHS laws and regulations (A,B, C)* - Public health laws and regulations (A,C) TOOLS AND DATABASES - CMPSATQ advisory on the medical follow-up to be provided to workers undergoing a screening test in the RSPSAT, 2012 - Professional practice guides, advisories, framework programs adopted by the TCNSAT (A,B,C) - Rôle des intervenants dans la réduction à la source [role of interveners in source reduction], TCNSAT, 2009 - Databases (A,B,C) - SIMDUT (A,B,C) - OHS portal (A,B,C) - Constat d'un résultat hors norme pour un contaminant chimique. Projet d'amélioration continue, Guide [observation of an out-of-specification result for a chemical contaminant: continuous improvement project, guide]. RPHT, TCNSAT, 2011 <i>Démarche provinciale de signalement des déficiences susceptibles de nécessiter une mesure de prévention</i> [provincial process for identifying deficiencies that may require preventive measures]. RSPSAT, 2010 BIBLIOGRAPHIC REFERENCES <i>Bilan des connaissances sur les guides de pratique en santé</i>. IRSST, Lortie, M. et al., 2012

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – PSSE and other workplace interventions; B - PMSD; C – MADO.

Table 2 Competency 2: Provide our expertise as a RSPSAT for the management of occupational health risks (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
A-PSSE AND OTHER WORKPLACE INTERVENTIONS (CONT.) Plan the various workplace interventions, i.e., environmental, medical, etc. Monitor worker health Agree on mechanisms for monitoring workplace interventions	• Perception and representation of occupational health risks • Public health decision-making processes • Analytical and systematic methods and processes • Planning and program development • Occupational health promotion and prevention concepts (A,C)* • Health protection strategies • PSSE elements • Occupational health intervention steps and limits • Process for identifying deficiencies that may require preventive measures of the RSPSAT • Criteria and procedures for occupational injury compensation • Theoretical foundations of the population-based approach in public health	• Plan a PSSE • Prioritize activities • Communicate effectively: (A,B,C)* • Intervene in a helping capacity and provide counselling (A,B,C) • Document and evaluate referral and follow-up processes • Formulate recommendations (A,B) • Use oral communication strategies (A,B,C) • Draft communication tools adapted to various audiences (A,B) • Use group facilitation techniques • Develop and present arguments • Vulgarize knowledge • Use ITCs (A,B,C) • Use negotiation and mediation strategies • Establish the limits of solutions sought		BIBLIOGRAPHIC REFERENCES (CONT.) • <i>La planification de la santé. Concepts. Méthodes. Stratégies.</i> Éditions Nouvelles. Montréal, Pineault, R. & Daveluy, C., 1995 • <i>Manuel d'hygiène du travail.</i> Association québécoise pour l'hygiène, la santé et la sécurité du travail, Ed. MODULO-GRIFFON, Roberge et al., 2004 (A,B,C)* • <i>Guide de surveillance biologique de l'exposition. Stratégie de prélèvement et d'interprétation. Guide technique T-03,</i> 7th Edition, IRSST, Truchon, G. et al., 2012 • <i>Guide de prélèvement des échantillons biologiques. Guide technique T-25,</i> IRSST, Gagné, S., 2012 • <i>Cadre de référence pour le dépistage et la surveillance médicale en santé au travail : résumé</i> [reference framework for screening and medical surveillance in occupational health]. Québec, Institut national de santé publique du Québec, 2011 • <i>Toxicologie industrielle et intoxications professionnelles.</i> 5th Edition : Masson, Lauwerys, R. & Lison, D., 2007 (A,B,C) • INSPQ & IRSST: specific publications (A,B,C) NETWORKS AND PARTNERS • Directors of public health • Partners: CSST, Clinical screening services... • Committee of experts on screening and medical surveillance in occupational health

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – PSSE and other workplace interventions; B – PMSD; C – MADO.

Table 2 Competency 2: Provide our expertise as an RSPSAT for the management of occupational health risks (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
A-PSSE AND OTHER WORKPLACE INTERVENTIONS (CONT.)	- Effective facilitation and communication strategies - Literacy concepts - Portraits of social health services - Principles of participative evaluation - Impact assessment methods	- Apply the provincial process for identifying deficiencies that may require preventive measures - Ensure monitoring of activities - Evaluate workplace interventions		TRAINING - Basic principles of audiology, INSPQ - TEMPO system, INSPQ - Service d'intervention sur mesure (SIM) – Stratégies d'animation et de communication efficace en santé au travail [tailored intervention services – effective OHS facilitation and communication strategies], Shawinigan, 2011 <i>Démarche provinciale de signalement des déficiences susceptibles de nécessiter une mesure de prévention</i> [provincial process for identifying deficiencies that may require preventive measures], RSPSAT, 2010
B- PMSD Process applications for the preventive withdrawal and reassignment of pregnant or breastfeeding workers	- Procedure for processing a PMSD application - PMSD philosophy	Evaluate a workstation		TOOLS AND DATABASES - Advisories and guides produced by the CMPH-PMSD - CSST, Travailler en sécurité pour une maternité sans danger No Dc200-1024-1 [safe working conditions for a safe maternity experience]
C- MADO Manage and investigate all cases of notifiable diseases (MADO) and of threats to public health in accordance with the Public Health Act	- Organization of RSPSAT with respect to MADOs - Nosological definitions - Natural history of diseases - Biological indicators of exposure - Databases: MADO-C, CCDP, SISAT and input guides	- Work collaboratively on the interprofessional and interregional levels - Apply epidemiological survey techniques	- Analytical skills - Intellectual curiosity	TOOLS AND DATABASES - MADO-C system and input guide <i>Guide de traitement des cas de MADO et des signalements d'origine chimique ou physique</i> [MADO guide for the treatment and reporting of cases of diseases of chemical or physical origin]. CMPSATQ, MSSS, 2012 BIBLIOGRAPHIC REFERENCE <i>Surveillance des maladies à déclaration obligatoire au Québec - Définitions nosologiques - Maladies d'origine chimique ou physique</i> [surveillance of notifiable diseases in Québec – nosological definitions – diseases of chemical or physical origin]. MSSS, 2010 update NETWORKS AND PARTNERS - Partners: CSST, clinical physicians, private OHS clinics...

Table 3 Competency 3: Support workplaces during the change process

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
A-COLLABORATION AND PARTNERSHIP Establish the first point of contact in the workplace Reach an agreement with the employer, worker representatives or the OHS committee members on the objectives and implementation of the PSSE Develop, in collaboration with the workplace, the various activities required in the short, medium and long term, taking into account the reality in the field	• The network's service offer • Roles and responsibilities within the network • Ethical principles and decision-making processes (A,B,C)* • Workplaces and their particularities • Data collection methods • Principles of professional maintenance • Portrait of injuries in the institution and in the activity sector • Motivational interviewing concepts (A,C) • Change strategies (A,B) • Coaching strategies (A,B,C) • Basic social marketing concepts • Concept of work organization • Population-based approach • Concepts tied to occupational health provisions and the power to act (A,B,C)	• Collect data • Analyze data (A,C)* • Analyze workplace needs (A,B,C) • Produce written communication tools (A,C) • Use communication strategies adapted to various clientele (A,B,C) • Use oral communication strategies (A,B,C) • Work on interdisciplinary teams (A,B,C) • Manage time and priorities • Facilitate a motivational interview (A,B,C) • Implement professional coaching strategies (A,B,C) • Create partnerships (A,B,C) • Implement participatory strategies (A,B,C) • Implement mobilization and negotiation strategies (A,B,C)	• Cooperation (A,B,C)* • Sense of fairness (A,B,C) • Open-mindedness (A,B,C) • Transparency (A,B,C) • Listening skills (A,B,C) • Empathy (A,B) • Self confidence (A,C) • Flexibility (A,B,C) • Respect (A,B,C) • Sense of ethics (A,C) • Professionalism (A,B) • Scientific diligence (A,B,C) • Leadership (A,B,C) • Sense of observation • Sense of responsibility • Professional autonomy • Positive attitude • Interest • Perseverance	GUIDELINES, ORIENTATIONS, POLICIES • Laws and regulations pertaining to occupational health (A,B,C)* • <i>Programme national de santé publique</i> : section Milieu de travail [Québec public health program: workplace section], MSSS, 2008 update • RSPSAT strategic plan, 2010 (A,B,C) TOOLS AND DATABASES • Guichet CSST [CSST portal] • SISAT: Grille de connaissance préalable [of prior knowledge grid] , (A,B,C) • Data collection grids • Portail SAT [OHS portal] (A,B,C) • Websites (OILOIT, NIOSH, OSHA, INRS, CCOHS, REPTOX, IARC or CIRC, etc.) BIBLIOGRAPHIC REFERENCES • <i>Code international d'éthique pour les professionnels de SAT</i> [international code of ethics for occupational health professionals], INRS, 2004 • <i>Rapport R-647, Conditions et processus de changement lors d'interventions externes en SST</i>. IRSST, Baril-Gingras et al., 2010 • <i>Cadre de référence en gestion des risques pour la santé dans le Réseau québécois de santé publique</i> [Guidelines for risk management in the Quebec Public Health Network] INSPQ, 2003 • <i>La planification de la santé. Concepts. Méthodes. Stratégies</i>. Éditions Nouvelles. Montréal, Pineault, R. & Daveluy, C., 1995

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – Collaboration and partnership; B – Mobilization and accountability; C – Strengthening of the culture of prevention.

Table 3 Competency 3: Support workplaces during the change process (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
A-COLLABORATION AND PARTNERSHIP (CONT.)		• Manage and resolve conflicts (A,B)* • Work in partnership (A,B,C) • Implement intervention processes in collaboration with workplace actors (A,B,C) • Use various intervention methods: e.g., systemic approach (A,B,C) • Use social marketing techniques (A,B,C)		TRAINING • Services d'intervention sur mesure (SIM) – Stratégies d'animation et de communication efficace en santé au travail [tailored intervention services – effective OHS facilitation and communication strategies]. Shawinigan, 2011 (A,C)*
B-MOBILIZATION AND ACCOUNTABILITY Support the OHS committee members, employer or worker representatives to ensure they can effectively manage risks in their environment	• Roles and responsibilities of the different OHS bodies • Preventive measures and health promotion strategies • Provincial process for identifying deficiencies that may require preventive measures of the RSPSAT • Professional risk management concepts	• Facilitate occupational health and safety committees or other committees, collaboratively • Establish strategic networks and partnerships • Practice reflective approach (B,C) • Use effective support strategies: coaching, tutoring... • Carry out procedures: reporting	• Creativity (B,C)* • Diplomacy • Leadership • Modesty (B,C) • Respect • Acknowledgement • Tolerance	TOOLS AND DATABASES • INRS solutions database • "L'échantillonneur" newsletter • Evaluation tools: scoreboard... • <i>Rôles et fonctions du CSS</i> [Roles and functions of the CSS]. CSST, 2011 • DC1000-107 • <i>Comment éliminer les dangers [eliminating danger]</i>, CSST, 2011 DC1000-103 BIBLIOGRAPHIC REFERENCES • <i>Cadre de référence en gestion des risques pour la santé dans le réseau québécois de santé publique</i> [Guidelines for risk management in the Quebec Public Health Network], INSPQ, 2003

* In order to simplify the text, the resources common to more than one sub-category are identified by letters corresponding to the sub-categories as follows: A – Collaboration and partnership; B – Mobilization and accountability; C – Strengthening of the culture of prevention.

Table 3 Competency 3: Support workplaces during the change process (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
B-MOBILIZATION AND ACCOUNTABILITY (CONT.) Help find solutions to problematic situations in collaboration with partners, peers and workplace actors Advise workplace actors on implementing proposals for change related to occupational health Involve workplace actors with evaluation activities related to the implementation of the PSSE	• Perception and representation of occupational health risks • Coaching strategies • Problem-solving techniques • Workplace intervention evaluation concepts			NETWORKS AND PARTNERS • RSPSAT actors • Partners: IRSST, CSST, ASPs, prevention mutuals • List of expert advisors e.g., engineering • Directory of resources specialized in occupational health TRAINING • <i>Démarche provinciale de signalement des déficiences susceptibles de nécessiter une mesure de prévention</i> [provincial process for identifying deficiencies that may require preventive measures], RSPSAT, 2010

Table 3 Competency 3: Support workplaces during the change process (cont.)

Professional situations	Internal resources			External resources
	Knowledge Declarative knowledge	Know-how Procedural knowledge	Soft skills Attitudes	
C-STRENGTHENING OF THE CULTURE OF PREVENTION Develop information and training activities in collaboration with workplace actors, based on their specific needs	- Educational pathways for health workers: concepts and facilitation - Typology and analysis of needs - Facilitation techniques - Literacy principles - Principles of media communication - Knowledge of evidence - Social marketing concepts - Tools developed within the RSPSAT	- Apply various teaching methods: role playing... - Adapt scientific knowledge for a non-specialized audience - Develop a knowledge translation plan - Communicate effectively: accessible language, fluid writing, informative message, persuasive and aimed specifically at intended reader... - Develop teaching tools: pamphlet, poster, brochure, online clip...	- Charisma - Credibility - Creativity	TOOLS AND DATABASES - Voice amplification system - Websites: IRSST, CSST, CCOHS, INRS... "Le cycle des apprentissages en SAT" guide [the learning cycle in OHS]. CPSISAT, 1999. - RSPSAT professional practice and facilitation guides on professional risk factors: silica, asbestos, lead, noise... and others: content of information sessions, pamphlets, posters, videos, CD-Rom... - Facilitation guide for the audio-visual tool: <i>La surdité causée par le bruit nous suit partout</i> [noise-induced hearing loss makes life less lively]. MSSS, 2010

CONCLUSION

This occupational health competency framework, consisting of three main competencies: 1) develop of our services as a RSPSAT, 2) provide our expertise as a RSPSAT for the management of occupational health risks and 3) support workplaces during the change process, offers a general portrait of occupational health in Québec. The framework was developed based on existing practices and input from stakeholders in the field, as part of a collaborative process of reflection and construction. It provides an overview of professional practices and serves as a guide for the ongoing development of professional competencies across the network.

The competency framework is interdisciplinary in nature, and focuses on the importance of teamwork, collaboration and partnerships. The professional situations that network stakeholders encounter in their work are managed effectively by a complementary group of individuals, who, depending on their level of proficiency, must each mobilize the internal and external resources needed to handle these situations. In fact, no one person can possess all the knowledge, know-how and attitudes relevant to a specific field.

The development of the occupational health competency framework has helped to strengthen the existing ties between the various occupational health bodies and to bring the strategic objectives—aimed at modernizing network-wide expertise—within closer reach. The framework is an excellent tool for modelling a dynamic process of ongoing professional development, for recruiting and training new talent, and for integrating new forms of work organization.

REFERENCES

- BARIL-GINGRAS, G., BELLEMARE, M., POULIN, P., ROSS, J. (2010). *Conditions et processus de changement lors d'interventions externes en SST : Élaboration d'outils pour les praticiens*. Montréal: IRSST.
- BERGERON, PG. (2006). *La gestion dynamique. Concepts, méthodes et applications*. (4th edition). Gaëtan Morin Ed.
- BISAILLON A., BEAUDET, N., SAUVE, M-S., BOISVERT, N., RICHARD, L., GENDRON, S. (2010). "Promotion de la santé et prévention de la maladie." *Perspective infirmière*, 7, 2.
- BRAHIMI, C. (2011). *L'approche par compétences Un levier de changement des pratiques en santé publique au Québec*. Institut national de santé publique du Québec, No 1228, 110 pp.
- BROUSSELLE, A. & AL. (2011). *L'évaluation: concepts et méthodes*, (2nd edition update), p. 52.
- CENTRE PATRONAL DE SANTE ET DE SECURITE DU TRAVAIL DU QUEBEC. (2007). *Profil de compétences en SST*. Montréal: CPSSTQ.
- COLLECTIF DES DIRECTEURS DE SANTE PUBLIQUE (2010) – *mémoire portant sur le régime québécois de santé et de sécurité du travail*, prepared by the Réseau de santé publique en santé au travail for the comité Viateur-Camiré. 34 pp.
- COMMISSION DE LA SANTE ET DE LA SECURITE DU QUEBEC. (2012-A). *Cahier des charges 2013 du programme des services de santé au travail*. Preparatory document for the signature of specific management and accountability agreements between the Agences de la santé et des services sociaux and the directions régionales de la Commission de la santé et de la sécurité du travail, Direction générale de la prévention-inspection et du partenariat, Direction du partenariat, 23 pp.
- CONSO, F. (2011) "Les référentiels en santé au travail : des instructions techniques aux recommandations de bonnes pratiques." *Archives des maladies professionnelles et de l'environnement*, vol. 72, no 2, pp. 117-118.
- DROUIN, L., SIMARD, R., FONTAINE, G., HUNEULT, C. (2004). "L'élaboration et la mise en application des programmes de santé spécifiques aux établissements : l'approche québécoise". *Revue Santé publique*, 16, 2. pp. 329-337.
- JABOT, F. & BAUCHET M. (2011). in V. Ridde & C. Dagenais, *Approches et pratiques en évaluation de programme*, Presses de l'université de Montréal, p. 328.
- JONNAERT. P. (2009). *Compétences et socioconstructivisme, un cadre théorique*, Perspectives en éducation et formation, De Boeck, Bruxelles.
- JOUVENOT, C. & PARLIER, M. (2005). *Élaborer des référentiels de compétences : principes et méthodes*. Lyon: Éditions Réseau ANACT.
- LAFORTUNE, L. (2008). *Guide pour l'accompagnement professionnel d'un changement*. Presses de l'Université du Québec.

- LALIBERTE, C. & BRAHIMI, C. IN COLLABORATION WITH L. LAPLANTE, M. SAVARD, L. DEGER, J. CHARTRAND, M.-J. NADEAU, C. THIBAUT & V. LAPAIGE (2012). *Environmental Health Competency Framework for Public Health in Québec*. Institut national de santé publique du Québec.
- LE BOTERF, G. (2006). *Construire les compétences individuelles et collectives*. Paris: Éditions de l'organisation.
- LEGENBRE, R. (2005). *Le dictionnaire actuel de l'éducation*, (3rd edition). Montréal: Guérin.
- MINISTÈRE DE LA SANTÉ ET DES SERVICES SOCIAUX – MSSS. (2008). *Programme national de santé publique 2003-2012, 2008 update*, Québec: Ministère de la Santé et des Services sociaux, 103 pp. Retrieved from: <http://publications.msss.gouv.qc.ca/acrobat/f/documentation/2008/08-216-01.pdf>
- MINISTÈRE DE LA SANTÉ ET DES SERVICES SOCIAUX – MSSS. (2010). *Plan stratégique du Réseau de santé publique en santé au travail du Québec*, Québec, 12 pp.
- MINISTÈRE DE LA SANTÉ ET DES SERVICES SOCIAUX – MSSS. (2013). *Recruter et maintenir l'effectif médical dans le Réseau de santé publique en santé au travail : problème urgent et recommandations pour un plan d'action*. Working document awaiting publication, April 2013.
- PAUL, M. (2009). "L'accompagnement dans le champ professionnel." *Savoirs*, no 20, pp. 11-63. DOI: 10.
- PINEAULT, R., DAVALUY, C. (1986). *La planification stratégique de la santé*. Montréal. Les Éditions Agence d'Arc Inc.
- RICARD, S. (2003) *Cadre de référence en gestion des risques pour la santé dans le Réseau québécois de santé publique*. Québec: Institut national de santé publique du Québec.
- RSPSAT (2010). *Plan stratégique du Réseau de santé publique en santé au travail du Québec*. Québec: MSSS. Baril-Gingras, G. et al. (2010). *Conditions et processus de changement lors d'interventions externes en SSST: Élaboration d'outils pour les praticiens*. Montréal: IRSST.
- SAVOIE-ZACJ, L. (1993). *Les modèles de changement planifié en éducation*, Les Éditions logiques, Montréal, Québec.
- TARDIF, J. (2006). *L'évaluation des compétences. Documenter le parcours de développement*. Montréal: Chenelière éducation.
- THACKER & AL. (1986). *A method to evaluate systems of epidemiologic surveillance in Comprehensive plan for epidemiologic surveillance: Centers for Disease Control*, Centers for Disease Control, Atlanta, p, 3A. MSSS (2006). *Cadre d'orientation pour le développement et l'évolution de la fonction de surveillance au Québec*.
- WORLD HEALTH ORGANIZATION. (1986). *Ottawa Charter for Health Promotion*. Geneva: WHO.
- WORLD HEALTH ORGANIZATION. (2003). *The Global Occupational Health Network, GOHNET*, 1, 5.

ANNEX 1

INVENTORY OF OCCUPATIONAL HEALTH, PUBLIC HEALTH AND OCCUPATIONAL HEALTH AND SAFETY FRAMEWORKS

Inventory of occupational health, public health and occupational health and safety frameworks			
Framework title	Statements on competencies, professional activities or other factors	Institution	Author, Year
Compendium of tools on the social and organizational aspects of the external OHS interventions - Framework	Structure divided into 10 professional activities: 1. Definition of the problem 2. Orientations of the stakeholder, the team and the organization 3. Resources of the stakeholder, the team and the organization 4. Development and application of arrangements beneficial to the various workplaces (context) 5. Development and application of the skills of the various institution stakeholders (context) 6. Overall strategy and objectives of the intervention (negotiation) 7. Participation mechanism for the various institution stakeholders (negotiation) 8. Activities to conduct with the workplaces 9. Definition of the proposed changes to be implemented by the workplaces 10. Suggested interventions and negotiation of intervention conditions	IRSST	Baril-Gingras, Bellemare et al. (2010) Note: <i>Essentially consists of a framework of professional activities that outlines an OHS intervention approach.</i>
The occupational and environmental health nursing profession – American Association of Occupational Health Nurses (AAOHN)	Five discipline-specific statements for nursing science (roles?) • Case management • Crisis intervention and counselling • Health promotion and risk reduction • Legal and regulatory compliance • Identification of workplace hazards and health risks to workers	AAOHN	2009 Note: <i>It is difficult to identify the internal resources in this document.</i>

Guide de l'appropriation des savoirs pour l'orientation des infirmières et infirmiers en SAT	Six statements for occupational health nursing: 1. Gain knowledge about local, regional and provincial organizations 2. Understand the legislative context 3. Be equipped to implement the various intervention frameworks 4. Adopt and apply the different reference frameworks 5. Adopt safe behaviours in the workplace 6. Develop skills for working with databases and information systems	Comité provincial des soins infirmiers en santé au travail/ Réseau de santé publique en santé au travail du Québec	CPSISAT 2011 Notes: <i>The only resources identified are those related to knowledge (expertise)</i> <i>Long list of required OHS "knowledge", presented in summary form</i>
American college of occupational and environmental medicine competencies	Ten competencies 1. Clinical occupational and environmental medicine 2. OEM related laws and regulations 3. Environmental health 4. Work fitness and disability integration 5. Toxicology 6. Hazard recognition, evaluation and control 7. Disaster preparedness and emergency management 8. Health and productivity 9. Public health, surveillance and disease prevention 10. OEM related management and administration		<i>American college of occupational and environmental medicine competencies, 2008</i>

Public health frameworks

Framework title	Statements on competencies, professional activities or other factors	Institution	Author, Year
A National Interprofessional Competency Framework	Six competency domains: 1) Interprofessional communication 2) Patient/client/family/community-centred care 3) Role clarification 4) Team functioning 5) Collaborative leadership 6) Interprofessional conflict resolution	Health Canada (University of British Columbia)	Canadian Interprofessional Health Collaborative 2010
A Set of Minimum Competencies for Medical Officers of Health in Canada	Fifty-one competency statements grouped into eight domains: 1) Foundational clinical competencies 2) Monitoring and assessing the health of the public 3) Public health consultant 4) Investigating and mitigating immediate risks to human health 5) Policy, planning and program development 6) Communication, collaboration and advocacy for the public's health 7) Leadership and management 8) Professional practice		MOH Competencies Working Group - 2009
Royal College of Physicians and Surgeons of Canada	Six competency statements: 1) Medical expert 2) Communicator 3) Scholar 4) Collaborator 5) Manager 6) Health advocate and professional		Royal College of Physicians and Surgeons of Canada, 2006 (M&J 2007)

Other occupational health and safety frameworks

Framework title	Statements on competencies, professional activities or other factors	Institution	Author, Year
Competency framework of the Réseau francophone de formation en santé au travail (RFFST)	Set of eight competencies: 1) Participate in workplace health monitoring 2) Refer to the regulatory framework 3) Communicate with internal and external prevention actors 4) Identify existing and potential hazards and dangerous work situations 5) Assess the risk of occupational accidents and health problems 6) Eliminate and reduce risks 7) Implement an occupational risk management approach in line with corporate management practices 8) Participate in improving the management system	RFFST (France)	RFFST 2011 Note: <i>This document is intended for professionals external to the workplace (engineers, occupational health physicians, consultants, etc.) Are they objectives or competencies?</i>
Centre patronal de santé et de sécurité du travail du Québec	Competency profiles (roles and responsibilities for 14 key positions in enterprises) Determination of the following points: 1. Activities to carry out and expected results 2. Knowledge 3. Know-how 4. Soft skills	CPSSTQ	2006 (MÀJ, 2007)
Association paritaire pour la santé et la sécurité du travail du secteur Affaires sociales (ASSTSAS)	Competency profiles (roles and responsibilities for various functions: health workers, managers, CPSST members, senior management) Determination of the following points: 1. Expected results 2. Knowledge 3. Know-how 4. Soft skills	ASSTSAS	J. Brouillard, 2012 ASSTSAS conference: la collaboration : touche essentielle en prévention Note: <i>The document focuses more on internal resources than on competencies.</i>

Other occupational health and safety frameworks

Framework title	Statements on competencies, professional activities or other factors	Institution	Author, Year
“Healthy Enterprise” Certification - BNQ Standard 9700-800/2008	Organizational practices contributing to health in the workplace. Targeted spheres of activity: • Personal living habits • Work-life balance • Work environment • Management practices		BNQ (Bureau de normalisation du Québec) – 2008 Note: <i>Essentially sets out guidelines or requirements</i>

ANNEX 2

ROLES AND RESPONSIBILITIES OF MEMBERS OF THE WORKING GROUP

ROLES AND RESPONSIBILITIES OF MEMBERS OF THE WORKING GROUP FOR THE DEVELOPMENT OF AN OCCUPATIONAL HEALTH COMPETENCY FRAMEWORK

1. GROUP COMPOSITION

- Project Lead: Gisèle Fontaine
- Expert Advisor on Methodology: Cora Brahimi
- Logistics Support: Marie Fortier
- Regional Coordinator: André Bouchard, member of focus group
- Local Coordinator: Luc Ouellet, member of focus group
- SAT content experts representing local teams, invited, in particular, for the initial validation of the professional situations

2. ROLES AND RESPONSIBILITIES OF MEMBERS

Role of the INSPQ's representative (Céline Farley, Team Leader, Développement des compétences)

Ensure project launch and smooth operation
Participate in information session

Role of the project lead

Coordinate work
Facilitate meetings
Write documents to be submitted to members
Report on progress of activities to various parties (Céline Farley and Robert Arcand, INSPQ, etc.)

Role of methodology expert

Support members in their efforts
Meet specific methodological needs
Facilitate training and information sessions
Help facilitate focus groups

Role of logistics support person

Facilitate communication (emails, etc.) within the OHS network
Collaborate on data collection and interpretation
Etc.

Role of members

Participate in meetings (4 to 5 face-to-face meetings or videoconferences)
Collaborate on various framework development activities (remotely)
Act to promote change and exert influence by describing positive impacts and benefits to the community
Collaborate on dissemination of framework

ANNEX 3

LIST OF DISCUSSION GROUP PARTICIPANTS

LIST OF DISCUSSION GROUP PARTICIPANTS

Present at all four discussion groups:

Cora Brahimi, Expert, INSPQ
Gisèle Fontaine, Project Lead, INSPQ
Marie Fortier, Logistics Support, CGP

Dates and regions

- **Discussion group held in Tadoussac, January 19, 2011**

Participants (Saguenay-Lac-Saint-Jean):

Annie Pageau, Nurse
Jonathan Labrecque, Research Officer
Nathalie Michaud, Occupational Hygiene Technician
Sonia Tremblay, Ergonomist

Participants (Côte-Nord):

Claire Labrie, Occupational Hygienist
Diane Bouillon, Nurse Advisor
Jean-Guy Lebel, Regional Coordinator
Stéphane Caron, Physician Advisor

- **Discussion group held in Montreal, January 27, 2011**

Annick Roy, Occupational Hygiene Technician
Benjamin Reid-Soucy, Ergonomist
Bruno Lemieux, Physician Advisor
Denise Soucy, Regional Coordinator
Gilles Séguin, Local Team Leader
Gisèle Fontaine, Resource Person, INSPQ
Madeleine Dufour, Nurse
Marie Fortier, Project Lead, CGP
Nicolas Millot, Industrial Hygienist
Paule Masson, Nursing and Health Promotion Advisor
Pierre Phenix, Physician Advisor
Richelène Gouin, Occupational Hygiene Technician
Sandra Moretti, Nurse
Suzanne Brisson, Physician

- **Discussion group held in Abitibi-Témiscamingue, February 21, 2011**

André Bouchard, Regional Coordinator
Fannie Ricard, Industrial Hygiene Technician
Gilles Gobeil, Local Coordinator and Industrial Hygiene Technician
Joanne Delisle, Local Coordinator
Marc Mastromattéo, Occupational Hygienist
Maryse Tessier, Nurse Advisor
Michel Jutras, Physician

Paula Larochelle, Nurse

- **Discussion group held in Mauricie et Centre-du-Québec, March 9, 2011**

France Bornais, Nurse

Gisèle Fontaine, Resource Person, INSPQ

Jean-François Flamand, Occupational Hygiene Technician

Linda McDermott, Occupational Hygiene Technician

Lise Ménard, Nurse

Lynda Frenette, Nurse Advisor

Manon Tessier, Ergonomist

Marc Brosseau, Local Coordinator

Marcel Jacob, Occupational Hygiene Technician

Marie Fortier, Project Lead, CGP

Serge Bouffard, Occupational Hygienist

ANNEX 4

DETAILED DEFINITION OF FAMILIES OF SITUATIONS

1. Family of professional situations

Development of RSPSAT services

Development

According to Legendre (2005),⁸ development occurs when a whole or its parts undergo a process of gradual, ongoing change toward greater progress, growth or evolution.

- **Monitoring**

Development draws on various sources. Monitoring, or surveillance, provides basic knowledge about the health status of the population, and can be defined as the ongoing process of assessing the health of a population and its determinants through the collection, analysis and interpretation of relevant data (Thacker, 1986).⁹ Intrinsic to this concept is the timely dissemination of these data to those who need to know, i.e., the decision makers responsible for planning policies and programs, as well as the population (MSSS, 2006).¹⁰

The Réseau de santé publique en santé au travail relies on its knowledge of work environments and worker health, as well as on evidence-based findings and research results, to effectively meet the expressed and unexpressed needs of its clientele. These diverse resources allow the RSPSAT to tailor its service offer and develop innovative partnership solutions.

It is this commitment to improving the health and well-being of workers that guides the development of its service offer. More specifically, development includes monitoring, planning, organization, implementation and evaluation.

Planning

Planning allows for the setting of objectives and for the development of action plans to achieve them. It is based on the department's (or company's) past achievements, the resources at its disposal, its current situation, and the goals to be achieved (Bergeron, 2006).¹¹

Organization

Organization consists in defining the composition of the working groups and coordinating their activities. It leads to the creation of organizational relationships that encourage individuals and groups to work together to achieve the common goals of occupational health.

⁸ Legendre, R. (2005). *Dictionnaire actuelle de l'Éducation*, (3rd Edition). Montréal: Guérin.

⁹ Thacker et al. (1986). *A method to evaluate systems of epidemiologic surveillance in the Comprehensive plan for epidemiologic surveillance: Centers for Disease Control*, Centers for Disease Control, Atlanta, p. 3A.

¹⁰ MSSS (2006). Cadre d'orientation pour le développement et l'évolution de la fonction de surveillance au Québec.

¹¹ Bergeron, PG. (2006). *La gestion dynamique. Concepts, méthodes et applications*. (4th Edition). Gaëtan Morin Ed.

Implementation

The logical outcome of health planning is the implementation of a program. This represents the transition from thought to action, or in other words, putting knowledge into practice. Implementation consists of the mobilization of resources to achieve defined objectives, and implies a process of change in the organization. It takes into account strategic elements from both the internal environment (inter-organizational relations) and the external environment (individuals and organizations interacting with each other). The implementation of a program requires mutual adaptation between the project itself and the organization as a whole (adapted from Pineault & Daveluy, 1986).¹²

Evaluation

Evaluation is an exercise that consists in answering a set of questions related to the rationale for and the implementation and impact of either an intervention or—from an occupational health standpoint—a program. It allows for an opinion to be formed based on various perspectives (relevance, coherence, efficiency, effectiveness) (Jabot & Blanchet, 2009).¹³ It relies on a system capable of providing scientifically valid and socially relevant information (Brousselle et al., 2011).¹⁴ The monitoring of activities forms part of the evaluation procedure.

In summary

In summary, the *Development of our services as an RSPSAT* family comprises all the professional situations related to monitoring, planning, organization, implementation and evaluation, as defined earlier.

2. Family of professional situations Contribution of our expertise as aRSPSAT for the management of occupational health risks

¹² Pineault, R., Daveluy, C. (1986). *La planification stratégique de la santé*. Montréal. Les Éditions Agence d'Arc Inc.

¹³ Jabot, F. & Bauchet M. (2011). in V. Ridde & C. Dagenais, *Approches et pratiques en évaluation de programme*, Presse de l'université de Montréal, p. 328.

¹⁴ Brousselle, A. et al. (2011). *L'évaluation: concepts et méthodes*, (2nd Edition Update), p. 52.

Application of expertise

Application of expertise means sharing, making available or offering our specialized occupational health public health services based on the needs of workplace actors (employers, workers, OHS committee representatives, prevention representatives, first responders, etc.).

Expertise of the RSPSAT

The Réseau de santé publique en santé au travail (RSPSAT), together with its partners and in accordance with the legal authority granted to it by the LSST (*Occupational Health and Safety Act*), the LSP (*Public Health Act*) and the LSSSS (*Act respecting Health Services and Social Services*), strives to protect the health of workers in Québec by ensuring that workplaces have the support needed to fulfil their obligations concerning the prevention of occupational injuries (RSPSAT).¹⁵

According to the MSSS (PNSP, 2008),¹⁶ within the field of public health, occupational health concerns are transformed into action primarily through activities planned as part of the institution-specific health programs (PSSE) in regulated sectors. More specifically, this involves activities pertaining to environmental surveillance, medical surveillance, risk factor surveillance for musculoskeletal disorders (MSDs), and also encompasses responsibilities tied to the *Pour une maternité sans danger* program (PMSD), as well as the joint processing of work-related injury claims, participation in notifiable diseases investigations (MADO), and reporting of hazardous situations and overexposures. Other activities that fall under occupational health expertise and are questions of public health include occupational poisonings, work-related cancers, health and safety risks associated with noise exposure, such as occupational deafness, etc.

Risk management

Risk management consists of a range of measures designed to eliminate, control or reduce the risks for occupational diseases and work-related injuries. Preventive measures fall within the scope of public health and the exercise of population-based responsibility (with a focus on the main determinants of health, prevention practices, intersectoral partnerships, support for at-risk populations, etc.).

¹⁵ RSPSAT (2010). *Plan stratégique du Réseau de santé publique en santé au travail du Québec*. MSSS.

¹⁶ MSSS (2008). *Québec Public Health Program 2003-2012 – 2008 update*. MSSS.

More specifically, the risk management process is based on a structured, systematic approach that includes the following steps:

- definition of the problem and its context,
- assessment of the risks, identification and review of the risk management options,
- selection of the management strategy,
- implementation of interventions,
- evaluation of the process and the interventions, and
- communication of risks.

The aim of this process is to integrate, in a scientifically valid and economically feasible manner, actions for reducing or preventing risks while taking into account social, cultural, ethical, political and legal considerations (Ricard, 2003).¹⁷

In summary

- The *Contribution of our expertise as a RSPSAT for the management of occupational health risks* family comprises all the professional situations for which the RSPSAT provides expertise for managing occupational health risks. More specifically, it involves carrying out workplace characterization activities and finding ways to eliminate, control and reduce risks to worker health. This family is characterized by its technical and scientific content as prescribed in the *Programme de santé spécifique à l'établissement*, the *Pour une maternité sans danger* program, the notifiable diseases information system, etc.

3. Family of professional situations

Support for workplaces during the change process

¹⁷ Ricard, S. (2003) *Cadre de référence en gestion des risques pour la santé dans le Réseau québécois de santé publique*. Québec: Institut national de santé publique du Québec.

Support

Support can be defined as "a process aimed at collaborative self-learning, in which the supported individuals take control of their own approach, and deconstruct and reconstruct their knowledge (their perception of occupational health) through multiple mediations" [Translation] (Paul, 2009).¹⁸

Support is a participatory approach that promotes action and change (Lafortune, 2008).¹⁹ It makes use of a set of professional skills and actions that are planned for a specific purpose and based on a partnership with a given workplace. In practice, the support approach involves the use of various information, training and coaching strategies (critical thinking, reasoning, interaction, discussion, learning by observation, etc.). The concept of support presupposes a shared culture of occupational health, which manifests itself through attitudes, knowledge, strategies, skills and experiences. Duration and continuity promote change in occupational health practices.

Change

Legendre (2005)²⁰ defines change as a deviation from habits and routines, something that forces you to think about familiar topics in novel ways and to challenge old assumptions. Savoie-Zacj (1993)²¹ defines change as a process that leads to lasting change in a given system. More specifically, change signifies improving occupational health and mobilizing workplaces to create optimal conditions for the prevention of work-related health problems (RSPSAT, 2010).²²

The nature of the support should be adapted to the specific contexts and challenges faced by each institution (Baril-Gingras et al., 2010).²³ Prevention-based change first identifies the discrepancy (or gap) between what is planned and what is actually achieved, and then determines what needs to be done to improve the occupational health situation.

The workplace and its actors

The workplace actors (i.e., occupational health and safety (OHS) committee, prevention representative, workers, employer, etc.) help plan each step of an intervention, including the implementation and monitoring of changes (Baril-Gingras et al., 2010).

This promotes a continuously improving culture of prevention in the workplace, while taking into account the diversity of views about occupational health.

¹⁸ Paul, M. (2009). "L'accompagnement dans le champ professionnel." *Savoirs*, No. 20, pp 11-63. DOI: 10.

¹⁹ Lafortune, L. (2008). *Guide d'accompagnement professionnel d'un changement*. Québec: Presses de l'Université du Québec.

²⁰ Legendre, R. (2005). *Le dictionnaire actuel de l'Éducation*, 3rd Edition, Guérin, Montréal.

²¹ Savoie-Zacj, L. (1993). *Les modèles de changement planifié en éducation*, Les Éditions logiques, Montréal, Québec.

²² RSPSAT (2010). *Plan stratégique du Réseau de santé publique en santé au travail du Québec*. Québec: MSSS.

²³ Baril-Gingras, G. et al. (2010). *Conditions et processus de changement lors d'interventions externes en SSST*. Élaboration d'outils pour les praticiens. Montréal: IRSST.

In summary

- According to the above definitions, the *Support for workplaces during the change process* family of professional situations identified by the focus group comprises all the professional situations associated with supporting actors in introducing changes in the workplace. Change is a key part of improving occupational health and mobilizing workplaces. This family is distinguished by a focus on the manner in which activities are operationalized rather than on their content. Hence, it covers the social and relational aspects of occupational health, within the context of an evolving shared vision.



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