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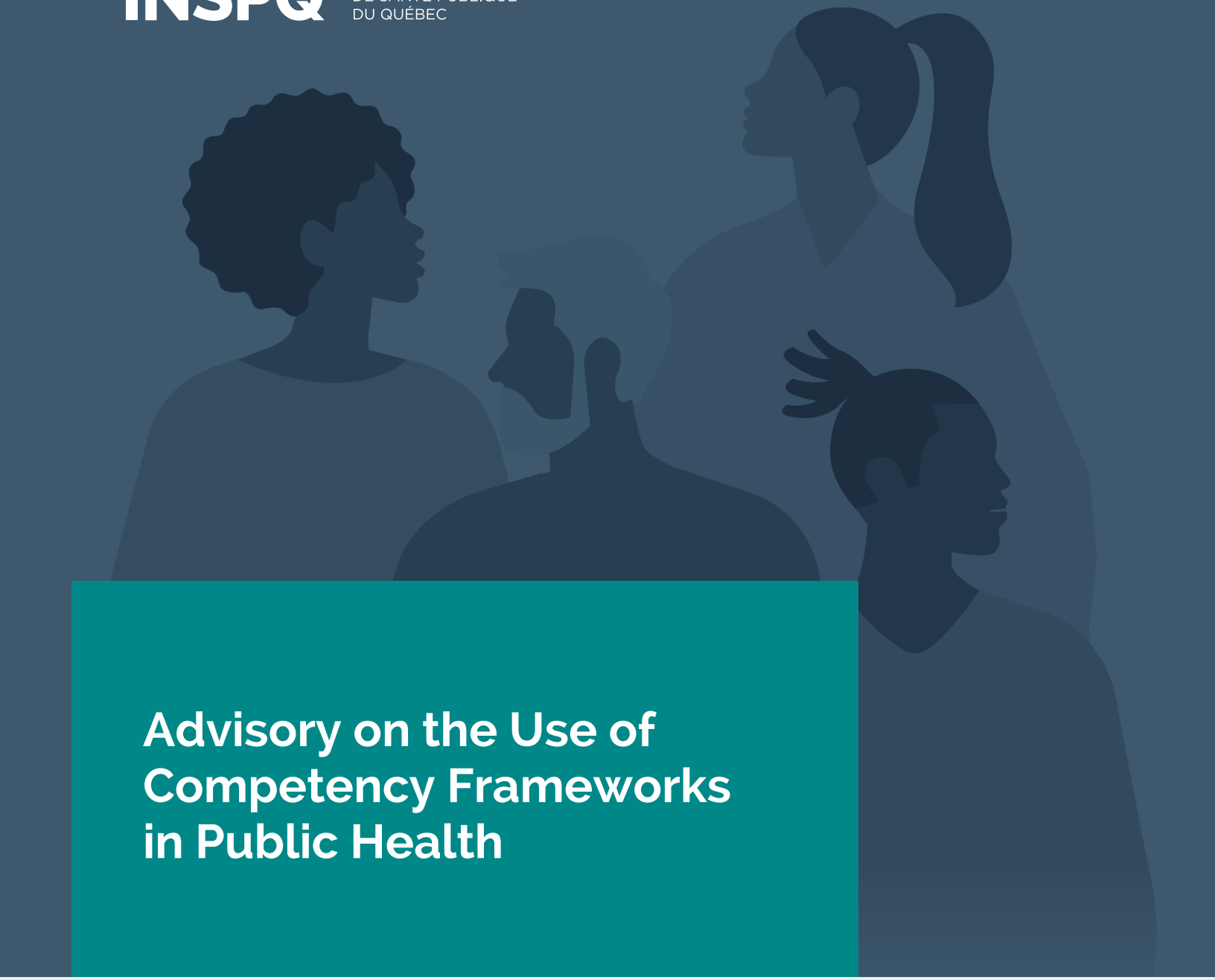

Advisory on the Use of Competency Frameworks in Public Health

LITERATURE REVIEW, EXPLORATORY INTERVIEWS AND COURSES OF ACTION

Québec

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FOREWORD

The survey that was to be conducted of managers and other staff in Québec's public health network has been postponed indefinitely on account of the COVID-19 pandemic. Interviews that were to be conducted with key human resource informants outside the network were also cancelled for the same reason. Under these circumstances, all of the results of the exploratory interviews that were carried out originally with the more limited goal of guiding the survey design were included in the results analysis. In addition, the literature review was more detailed than initially planned and can be described as a "narrative review including systematic strategies".

TABLE OF CONTENTS

LIST OF TABLES

HIGHLIGHTS

Many countries have developed competency frameworks to support workers faced with the growing complexity of public health practices. To better understand the utilization of these frameworks in Québec, identify courses of action for optimizing their use, and ascertain updating requirements, the Direction générale de la santé publique of the Ministère de la Santé et des Services sociaux du Québec tasked the Institut national de santé publique du Québec with preparing an advisory to that effect.

Main observations and courses of action based on a competency-based approach

Competency frameworks are usually viewed as tools associated with a competency-based approach in the workplace. Therefore, their use depends on contextual factors, such as the extent to which managers and other staff, human resource departments and labour unions understand and adopt this type of approach. Despite the fact that a competency-based approach is promising, there is legitimate resistance to its adoption:

- The concept of competency is, in essence, complex and abstract, which hampers our understanding of it together with its perceived usefulness and makes it more difficult to operationalize.
- It can be hard to assess competencies because it is sometimes difficult to measure them.
- Staff members may have a somewhat ambivalent reaction to such assessments, because they are torn between a desire for recognition and the fear of being judged or sanctioned.

Therefore, to gradually implement or to strengthen a competency-based approach, it is suggested to:

- initiate a reflection process involving representatives of all groups concerned (managers, human resource departments, labour unions, staff members with various professional roles, etc.);
- conduct case studies with units or teams in the health network that have already adopted a competency-based approach;
- explore the relevance and feasibility of pilot projects on the incorporation of different aspects of the competency-based approach at different organizational levels.

Such initiatives would be very useful for optimizing framework use. On the other hand, it should be noted that frameworks already help to promote the competency-based approach to some extent. Therefore, it is still appropriate to base courses of action on the use of frameworks themselves.

Main observations and framework-based courses of action

First of all, it is important to point out that characterizing the different types of framework use and their impacts strengthens the relevance of these tools. Furthermore, although the people we interviewed were generally satisfied with the content and precision of the competency frameworks under study, it should be mentioned that certain factors could help to increase the use of frameworks and promote their development. These factors concern structural levers (public health organizations, funding, influence, university programs, etc.), organizational resources, time allocated, as well as the different mechanisms and tools designed to support framework use. In fact, the results of the present study could be useful for developing mechanisms, such as training on the potential impact of framework use with the help of case studies.

The following courses of action are proposed to optimize the use of frameworks (see Chapter 7 for the complete list):

- Use frameworks as guidelines for professional development, rather than as a list of specific criteria that have to be met, in order to gain more insight into the issues associated with competency assessment.
- Disseminate frameworks widely and make them readily accessible on the Web.
- Explore the idea of preparing training sessions on frameworks, the different ways in which they can be used, their impacts, and "good use practices."
- Develop a Web interface and digital tools to facilitate self-assessment of competencies in order to address the issue of the length and complexity of frameworks.
- Update certain "external resources" such as plans and guides that have been republished.
- Explore the idea of developing a general public health framework that could include important but little-discussed issues, in particular consideration of social inequities in health and public policy analysis.

The need for empirical studies in Québec

The literature review did not identify very many studies on competency frameworks. Empirical data are needed to better understand the use of these tools. For example, a survey of managers and other staff, as well as human resource departments in Québec's public health network could be carried out, perhaps in conjunction with interviews or focus groups. If the amount of data collected is not sufficient, benchmarking with organizations outside the health network could also be considered.

SUMMARY

Background and key issues

Faced with the growing complexity of public health practice, many countries have developed competency frameworks, or lists of competencies and resources (know-how, qualities, networks, etc.) that need to be mobilized and the conditions required to take effective action in professional situations. These frameworks are designed to ensure that workers can meet the challenge posed by the complexity of public health practice.

Québec has not lagged behind in these efforts. Between 2010 and 2018, the Institut national de santé publique du Québec (INSPQ), the Ministère de la Santé et des Services sociaux du Québec (MSSS), regional public health actors and their partners developed six frameworks pertaining to different areas or functions in public health. These initiatives reflected a desire to improve professional practices on an-going basis.

Prompted by the fact that the use of frameworks is perceived to be suboptimal and by questions surrounding the need to update them, prepare new ones and develop mechanisms to promote their use, the Direction générale de la santé publique (DGSP) of the MSSS tasked the INSPQ with documenting the use of public health competency frameworks, including the six frameworks referred to above.

The present advisory will contribute to work in support of developing the competencies of public health actors.

Objectives of the study

In order to support the development of the competencies of people working in Québec's public health network, this study strives to better understand the use of public health competency frameworks (including the six frameworks studied here) by professionals and managers at the DGSP, the INSPQ and public health departments. It also aims to develop courses of action to optimize the use of these frameworks.

The frameworks under study were prepared to support the implementation of the Québec Public Health Program:

- *Profil des compétences pour l'exercice de la surveillance continue de l'état de santé de la population du Québec* (April 2010);
- *Environmental Health Competency Framework for Public Health in Québec* (July 2012);
- *Référentiel de compétence pour relever le défi de l'exercice de la responsabilité populationnelle à l'intention des CSSS et de leurs partenaires* (August 21, 2012);

- *Occupational Health Competency Framework for Public Health in Québec* (August 2013);
- *Référentiel de compétences en prévention et promotion de la santé pour le réseau de la santé et des services sociaux* (July 2014);
- *Référentiel de compétences en maladies infectieuses pour la santé publique du Québec* (June 2018).

Methodology

A narrative literature review including systematic strategies was conducted, making it possible to explore research carried out in Europe, Australia and North America between 2013 and 2020. This research concerned various aspects of the use of public health frameworks (factors, types of use, impacts) intended for managers and professionals.

Semi-structured interviews (n = 13) on the six frameworks under study provided contextual information for the results of the literature review. Five scientific advisors, four medical advisors, one manager, two labour union representatives and one human resource manager were interviewed. All of them worked for the INSPQ[1] except for one of the manager's, who worked at the Direction de santé publique du Centre intégré universitaire de santé et des services sociaux (CIUSSS) de la Capitale-Nationale.

Main findings of the study and topics for discussion

The literature review revealed a lack of empirical research on the implementation, use and impacts of competency frameworks. Only 13 articles were selected for in-depth analysis and 8 of those were core articles. Despite the fairly limited number of articles, the analysis of the documents was triangulated and enriched by that of the exploratory interviews and thus highlighted the factors associated with framework use, the different types of use, overall satisfaction with frameworks, and the impacts of their use. These findings have made it possible to strengthen the relevance of using competency frameworks in public health. References to 25 additional publications are provided in this advisory and they have helped to develop the research question and the conceptual framework and to stimulate discussion and the identification of courses of action.

Even though the analytical approach applied in this study was largely inductive, the categories created were compared in an iterative manner with existing analytical frameworks (derived mainly from the work of Damschroder et al. 2009 and Lemire et al., 2009). The following section describes the factors identified and, when revealed by the interviews, the elements used to assess certain aspects of the frameworks under study.

[1] Initially, the results of the literature review and the interviews were supposed to guide a survey of the network that was to be conducted during a second phase. That phase has been postponed indefinitely because of the COVID-19 pandemic. Nonetheless, the results obtained thus far have made it possible to meet some of the original objectives.

Structural factors

The structural factors identified in this study have two focuses, the first of which is the stability, importance and degree of structuring of public health. Due to the interdisciplinary and complex nature of this field, it is difficult to institutionalize it within government. This problem is reflected by a lack of levers (organizations, funding, influence, university programs, etc.) that could promote framework use. Nevertheless, this situation might encourage some actors to consider competency frameworks as a "political tool" for recognizing and professionalizing the different areas of public health.

The second focus of the structural factors identified by this study is the more direct influence they have on the use of frameworks, such as the presence of accreditation systems requiring the preparation of continuing professional development plans based on frameworks or the compatibility of frameworks with the requirements of professional orders.

Organizational factors

A second category of factors identified in the course of the present study is related to major organizational directions: the alignment of organizational and national objectives, the availability of resources, and the amount of time devoted to competency development. It is also important to consider the role of managers, including the steps they take to encourage framework use. In that regard, the results of this study have revealed the sometimes negative impact of implementing frameworks with only a top-down approach on staff members' receptiveness to the frameworks being implemented. A third category of factors is related to the presence of mechanisms and tools that facilitate the use of frameworks (coaching, training, collective development plans, etc.). We will discuss this again in the description of courses of action.

Factors related to content

The content-related factors identified by the study concern the characteristics of framework content and the degree to which it is in keeping with the needs and context of the target audience. We learned from the interviews that some content is not sufficiently addressed, such as the operationalization of taking inequities in health into account and the analysis of public policy. The content-related factors identified are also associated with the concept of competency itself, that is, its abstract nature, the complexity of translating and operationalizing it in practice and the difficulty of evaluating it. For this reason, making an assessment of a competency is tricky because it concerns people's identity, particularly if it does not sufficiently consider the actual work involved and the conditions in which it is carried out. Furthermore, competencies are sometimes hard to measure because some of their components cannot be quantified (e.g. soft skills), even though those components are often essential for taking appropriate action.

Factors related to form

The form-related factors identified by this study pertain to the readability of competency frameworks. They concern the presence of jargon, text length and quantity, and the availability of translations into the language of minority groups. Some of the people who took part in the interviews found that the language used in the frameworks was complex and that there was too much information in some cases. That being said, the precision of the frameworks under study was considered very satisfactory.

Factors associated with the implementation process

The presence of a structured strategy for promoting frameworks and encouraging their use is an important factor. The planning and implementation of this type of strategy may be complex, costly and time-consuming, especially if the question of the competency-based approach is more broadly involved. The cross-cutting nature of this approach involves major changes in several processes (recruitment, professional development, assessment, decentralization, networking, etc.). In the case of the frameworks under study here, all of the participants said that their dissemination was inadequate. The transfer plan provided for initially to promote them was never implemented.

Types of use

This study revealed that frameworks have many different uses: analysis of needs and research data, advocacy, human resource management (hiring process and work organization), strategic management (focused on organizational directions, organizational change, etc.), competency development (supervision of interns, preparation of professional development plans, mentoring, continuing education, etc.) and, lastly, support for career paths inside and outside organizations (promotion of transferable competencies with a view to job mobility).

Overall satisfaction and impacts

The overall satisfaction with frameworks reported in the literature was quite positive, and it was considered very positive in the interviews. As regards the impacts of framework use at the individual level, it was said, among other things, to strengthen/instill confidence in a person's competencies and to structure their learning and career path. It also clarifies a person's professional identity and sense of community in a given area, such as health promotion. At the organizational level, frameworks have proven to be useful for identifying knowledge needs in the course of knowledge transfer. It was also noted that frameworks are effective for characterizing practices with a view to facilitating communities of practice. Frameworks can "put into words realities" that are hard to understand. Frameworks have proven to be relevant within the context of implementing population-based responsibility for they provide more operational definitions and thus foster a shared vision of change.

Courses of action

The results of this study can be used to develop courses of action (and avenues for reflection) to optimize the use of the six competency frameworks under study. Most of these actions and avenues are preliminary, given that the study could not be completed by collecting data in the public health network on account of the COVID-19 pandemic.

Courses of action and guidelines for the competency-based approach

- Initiate a process of collective reflection by the learning organization on the implementation of a competency-based approach in public health and the use of frameworks, which could include case studies and/or the use of pilot projects.
- Recognize the difficulties involved in measuring collective or individual competencies, in order to bring about a change in attitude in that regard and put appropriate mechanisms in place.
- View self-assessment as a process at the service of learning rather than at the service of a judgment leading to criticism or sanctions.
- See frameworks as guidelines instead of specific criteria that have to be met.

Development of mechanisms and tools to facilitate framework use

- Develop a transfer plan to introduce the six frameworks under study.
- Offer training to support the use of the frameworks according to the target audience concerned.
- Explore the possibility of improving organizational conditions to promote learning (amount of time allocated, accessibility of training, financial resources, etc.).
- Develop a Web interface to simplify the usability of the tables contained in the frameworks — using accordions,[2] for example.
- Evaluate the feasibility and relevance of developing Web tools to facilitate the self-assessment of competencies based on professional levels and roles.

[2] "An accordion is a graphical control element comprising a vertically stacked list of items, such as labels or thumbnails. Each item can be 'expanded' or 'collapsed' to reveal the content associated with that item." Accordion (GUI). (September 8, 2021). In https://en.wikipedia.org/wiki/Accordion_(GUI)

Updating of the six frameworks under study

It should be noted from the outset that the results of the exploratory interviews all support the assertion that the frameworks under study are useful, relevant and sufficiently precise.

Nevertheless, it has been reported that external resources (e.g. documents republished by partners) need to be updated.

Development of other frameworks

- Explore the idea of developing a general public health framework. Determine how it would align with the framework developed by the Public Health Agency of Canada.
- Define the competencies related to considering social inequities in health and include them in a general public health framework.
- Define the competencies related to public policy analysis and include them in a general public health framework.

The need for empirical research in Québec

Among other things, a survey of the various actors in Québec's public health network could be conducted to foster a better understanding of the use of competency frameworks and strengthen the decisions that have to be made in order to optimize their use. The survey could perhaps be combined with interviews or focus groups involving the same target audience. Consultation of key human resource informants working outside the health network could also be useful.

1 BACKGROUND AND KEY ISSUES

The public health field anticipates that it will be faced with increasingly complex problems; therefore, it continues to expand (Fournier, 2003; Massé, 2007; Parent et al., 2014). To address this complexity, the skills of practitioners in the field must be improved (OMS, 2016). In view of this situation, many countries have developed public health competency frameworks in recent years (Battel-Kirk and Barry, 2019a; Bornioli et al., 2020). These frameworks group the competencies and resources (knowledge, soft skills, know-how, contact networks, etc.) that need to be mobilized and the conditions required to act effectively in various professional situations.

In Québec as well, public health workforce development is not in sync with the growing complexity of this field. When the Québec Public Health Program (2003-2012) was updated in 2008, a report highlighted the fragmentation of knowledge and practices, the provision of variable and uncoordinated training, management methods often unsuitable for promoting networking, and under-utilization of recognized innovative approaches to professional learning (Brahimi et al., 2011, p. 1). As in other parts of the world, this lack of a systemic vision has also prompted Québec to develop competency frameworks. For example, between 2010 and 2018, the Institut national de santé publique du Québec (INSPQ), the Direction générale de la santé publique (DGSP) of the Ministère de la Santé et des Services sociaux (MSSS), regional public health actors and their partners developed six frameworks for various public health areas or functions. These frameworks deal specifically with surveillance (2010), environmental health (2012), population-based responsibility (2012), occupational health (2013), promotion-prevention (2014) and infectious diseases (2018).[3]

Despite the quite considerable resources allocated to developing public health frameworks, there has been very little research on the use of these frameworks, their types of use, their impacts and, more broadly, the competency-based approach in public health[4] (Battel-Kirk and Barry, 2019a). In fact, no such studies have been conducted in Québec. More general research on frameworks relating to sets of fields of practice have had disappointing results. According to Batal and Oudet (2013), such frameworks are used to a very limited extent, and "even though they create the illusion that human resource management practices are technically

[3] List of the six frameworks under study, along with their hyperlinks: Profil des compétences pour l'exercice de la surveillance continue de l'état de santé de la population du Québec; Environmental Health Competency Framework for Public Health in Québec; Référentiel de compétence pour relever le défi de l'exercice de la responsabilité populationnelle à l'intention des CSSS et de leurs partenaires; Occupational Health Competency Framework for Public Health in Québec; Référentiel de compétences en prévention et promotion de la santé pour le réseau de la santé et des services sociaux; Référentiel de compétences en maladies infectieuses pour la santé publique du Québec.

[4] The competency-based approach may be defined as a set of means for fostering the development of competencies, the term "competency" being understood as complex knowledge of how to act based on the effective mobilization and combination of internal resources belonging to the individual (knowledge, soft skills, know-how) and external resources (means, techniques, information, relations, teamwork, work organization, etc.) (Batal and Oudet, 2013). Section 3.2 discusses this definition in more detail.

sophisticated, they have not led to a visible improvement in employee management" (p. 45). [Translation] What is more, despite the promising prospects associated with the competency-based approach, there has been considerable discussion about its limitations and even its relevance (Batal and Oudet, 2013; Bruno et al., 2010; Carignan and Fourdrignier, 2013; Jonnaert et al., 2004; Mendoza et al., 1994).[5]

Within the context of Québec's public health network and due to the perception that the use of the six aforementioned frameworks is suboptimal, the Direction générale de la santé publique (DGSP) of the MSSS wondered if it would be relevant to **update them**, **develop new ones** and **create mechanisms** to promote their use. Therefore, the DGSP of the MSSS tasked the INSPQ with drafting a scientific advisory to better understand the use of these frameworks in the public health network with a view to defining courses of action for strengthening the frameworks' use.

Originally, the project was to include a literature review and a survey of public health professionals and managers at the DGSP and the INSPQ. Exploratory interviews of members of the INSPQ (for the most part) were then added to the methodology defined at the start of the project, with the limited goal of guiding the preparation of the questionnaire. However, since the proposed survey could not be conducted on account of the COVID-19 pandemic, it was deemed appropriate to include all the results of the exploratory interviews in this advisory. The literature review was also expanded and might be described as a "fairly systematic" [Translation] narrative review (Framarin and Déry, forthcoming, p. 21). It should also be noted that one of the goals of the project was to measure the degree of **satisfaction** with the six competency frameworks. Since the lack of an appropriate data collection strategy made it impossible to rigorously measure the degree of satisfaction with certain specific aspects, this advisory presents the **overall level of satisfaction with the frameworks and their positive impacts**, as reported in the literature and the exploratory interviews.

The results of the literature review, along with those of the exploratory interviews (n = 13) enabled us to identify the factors related to framework utilization, actual and potential types of framework use and their positive impacts. As for the contribution made to the research community, the review filled a knowledge gap in the literature concerning the implementation of public health competency frameworks. As for the contribution made to both research and practice, the interviews helped to detail and contextualize the results, as well as triangulate certain aspects of the review. Lastly, the results as a whole helped to develop courses of action.

After describing the objectives of this study in detail, we will present theoretical perspectives on the competency-based approach, our methodology and results, as well as a general discussion and a series of courses of action.

[5] Chapter 3 presents the main limitations of the competency-based approach.

2 PURPOSE AND OBJECTIVES

The purpose of this research is to document the use of competency frameworks in public health in order to better support the development of the competencies of people who work in Québec's pubic health network. It aims to:

1. Describe the **factors** related to the use of frameworks.
2. Identify the different **types of** framework **use**.
3. Describe the perceived **impacts** of framework use.
4. Based on the results, develop **courses of action** for:
   - implementing mechanisms to promote the use of frameworks;
   - meeting the need to update frameworks;
   - meeting the need to develop other public health frameworks.

3 THEORETICAL PERSPECTIVES ON THE COMPETENCY-BASED APPROACH

The focus of this study is the use of competency frameworks in public health. To better understand their use without overlooking its fundamental aspects, we have approached this question from two main perspectives:

- Competency frameworks can be analyzed as interventions and, to a lesser extent, as tools for implementing a competency-based approach, making it relevant to refer to implementation science.
- Competency frameworks can be considered means for transferring knowledge, with knowledge being the translation of areas or functions[6] in public health into a set of competencies associated with professional situations, making it possible to refer to theoretical work in knowledge transfer.

The manner in which this study is based on implementation science and the transfer of knowledge for data analysis purposes is discussed in Chapter 4, on the methodology, and Chapter 5, on the results. It is important to clarify, from a theoretical standpoint, what is meant by the term "competency-based approach." Therefore, in the following sections, we will provide conceptual guidelines to foster a better understanding of the relevance of this approach, as well as its strengths and limitations. We will also provide a definition of the concept of "competency framework".

3.1 The inadequacy of the objectives-based approach in several contexts

You cannot learn to read
without learning to read the world.[7] [Translation]
- Paolo Freire

The competency-based approach in the workplace was developed in response to certain shortcomings in the "objectives-based approach." Inevitably, all interventions have objectives, but the basic characteristic of the traditional objectives-based approach is that it is rooted in behaviourism (Brahimi et al., 2011). This trend, which is derived from psychology, considers learning to be "a sustained change in behaviour, which is the set of objectively observable reactions of an organism responding to a stimulus" (Ibid., p. 6). This concept of learning has an

6 To clarify the distinction between area and function in public health, Martin et al. (2014) claim, for example, that "health prevention and promotion are described in the QPHP [Québec Public Health Program] as core *functions* in public health. They differ from *areas* such as environmental health or occupational health. The exercise of both of these core functions applies to the six areas included in the national program." [Translation] Surveillance and protection can be added to these functions.

7 Translation of a paraphrase from the French version of *Professora sim, tia não — Cartas a quem ousa ensinar* by Irène Pereira: https://www.questionsdeclasses.org/?Paulo-Freire-L-importance-de-la-lecture

impact on the way that training is implemented. With the objectives-based approach, the needs and social conditions of learners are not taken into account; people are "passive" in the education process. In terms of pedagogical strategies, this is reflected by the importance given to lectures, repetition and positive reinforcement. Students are evaluated on the basis of observable behaviours (Vienneau, 2011).

In its typical form, the objectives-based approach is associated with Taylorism in business. In this type of work organization, tasks — or content to be learned — is broken down into tiny steps that are performed or learned in isolation, making it hard to grasp the overall meaning of the tasks or knowledge as a whole (Jonnaert et al., 2004). Assembly-line work is a perfect example of this: workers carry out tasks in sequence without necessarily knowing what the other workers are doing, without understanding the context in which the products were designed and without understanding their purpose, etc. In the context of public health, the potential impact of such fragmentation can be illustrated by applying it to the delivery of services. In a fictitious example, a homeless person may be faced with a disruption of services: their emergency shelter is not coordinated with psychosocial services, there are no longer any ties between those services and the BBSI[8] prevention centre or the job market integration centre, etc. This silo-based organization does not promote global management of people's many needs.

Therefore, the objectives-based approach is considered inadequate in certain contexts. It is criticized, for example, for **not being very effective in situations involving high-level intellectual functions**, such as problem solving, argumentation and critical analysis. Breaking learning objectives down into a large number of simple tasks makes it difficult to integrate them; there is a tendency, for instance, to dissociate learning related to the cognitive domain from that related to the psycho-emotional domain (Nguyen and Blais, 2007). Since the knowledge has been removed from its context, **it is considered** "**inert**," or hard to mobilize in different situations. For example, a person may know the definition of gender equality by heart, but if they have a poor understanding of the macrosocial processes related to it, they will find it hard to mobilize and apply the definition when assessing the consequences of a public policy that could affect women differently from men.

3.2 The competency-based approach: definition, strengths and limitations

The competency-based approach was developed in the workplace in the early 1990s in response to management and training problems arising from certain shortcomings of the objectives-based approach (Brahimi et al., 2011). Administrative silos, a lack of staff autonomy and a lack of structural flexibility were highlighting the limitations of organizations in the face of societal changes (Ibid.), namely, the growing complexity of society and social acceleration (Rosa, 2017).

[8] Blood-borne and sexually transmitted infections.

The concept of competency was then considered to be "that little extra something over and above the qualifications required for a particular job" (Batal and Oudet, 2013). [Translation] Despite the many and sometimes divergent definitions of this concept (Briand-Lamarche, 2017; Jonnaert et al., 2004; Nash et al., 2016), it has been possible to identify certain basic characteristics. First of all, competencies are a person's ability to know how to act **in certain situations**, "as opposed to the knowledge and skills that a person may have regardless of whether they are implemented or not" (Oudet, 2012). [Translation] Several authors, including Tardif (2003), have also described competencies as complex knowledge of how to act, which are based on the effective **mobilization and combination** of **internal resources** belonging to the individual (knowledge, soft skills, know-how) and **external resources** (means, techniques, information, relations, teamwork, work organization, etc.) (Batal and Oudet, 2013). Lastly, Le Boterf (2006, cited in Brahimi, 2011) states that **willingness to act** is one of the factors that affects competency, i.e. a subject's personal motivation and engagement — knowing that, from a sociological standpoint, motivation does not depend solely on people themselves, but also on the social and organizational processes that concern them (Donnay and Verhoeven, 2006).

Therefore, the competency-based approach has several advantages. For example: (1) it is based on professional situations and can thus provide a **global view** of the resources needed to act (soft skills, knowledge, know-how, external resources); (2) it promotes **learning in action**, which can be fostered by mechanisms such as learning communities; and (3) it values collective competencies rather than just individual ones and can thus promote the **complementarity and interdisciplinarity** of teams.

Despite their promises, the concept of competency and the use of a competency-based approach in the workplace have attracted certain criticisms. We will summarize the main ones here. First of all, the **concept of competency has multiple meanings**, with the result that it is applied in many different ways (Batal and Oudet, 2013). If the concept is not adequately clarified, the application of a competency-based approach in developing competency frameworks, for example, can lead to problems of methodological rigour (Briand-Lamarche, 2017). Competencies may thus be reduced to observable behaviours, cognitive abilities or even personality traits (Ibid.). To reduce these risks, it is important to clarify and explain the concepts mobilized.

A second criticism concerns the **difficulties and risks involved in assessing professional competencies**. The concept of competency is complex, contextual and often abstract, making its overall meaning hard to grasp (Tourmen, 2016). Persons in charge of assessing competencies may thus be tempted to consider only those that are observable, visible, measurable, quantifiable or procedural (Ibid.). We will return to this thorny question of competency assessment in the general discussion.

A third criticism concerns **the purely instrumental vision of knowledge**, whereby knowledge is considered solely as a resource for action that is often based on work efficiency standards (Hirtt, 2009; Dierckx, 2013). To get beyond this reductionist view, it is important to recognize that knowledge mobilized in training, for example, will not necessarily be immediately applicable among learners; but it can still be meaningful. This is all the more relevant in public health where knowledge is complex and the power to act is sometimes a long-term proposition. For example, knowledge on social health determinants is sometimes hard to apply over the short term, but it continues to be of crucial importance for analyzing issues broadly and in depth and for helping to effectively reduce social inequities in health (SIH) over the longer term (Weinstock, 2018).

Lastly, since the competency-based approach does not sufficiently take into account changing working conditions, it **can make individuals overly accountable when it comes to competency requirements** (Batal and Oudet, 2013; Bruno et al., 2010). According to Brahimi (2011, p. 23), the increasing complexity of professional situations and the limited resources of individuals (knowledge, experience, skills) mean that competency acquisition should not rest on the shoulders of individuals alone. According to Le Boterf (2006, cited in Brahimi, 2011), organizations and communities in general should opt for environments that facilitate knowledge sharing, with the "learning organization"[9] being a formal proposal. This process could be operationalized by, for example, implementing communities of practice supported largely by information and communication technologies (ICT), making use of multidisciplinary and interdisciplinary groups and promoting joint projects and networking (Brahimi et al., 2011, p. 23).

3.3 The competency framework

Generally speaking, the term **framework** can be understood in two ways: (1) as a fixed, prescriptive and generalizable system of reference, or (2) as a set of guidelines that underpin or lead to action (Postiaux et al., 2010, p. 18). As we will see here, the second option is more appropriate.

According to Brahimi et al. (2011), a **reference framework** provides an overview of professional activities, resources that must be brought together (within the meaning of Le Boterf, 1998) and the conditions for acting effectively in work situations. For these authors, reference frameworks are an essential tool for implementing a competency-based approach in organizations. In this sense, the development of frameworks is a response to the shortcomings of the objectives-based approach within organizations.

[9] Senge (1991, cited in Campeau, 2019) is considered to be the founder of the concept of "learning organization". He identified five "learning disciplines" fundamental to this type of organization:
- Personal mastery: Aspire to
- Mental models: Think and inquire
- Building shared vision: Work toward a common goal
- Team learning: Interact and work together
- Systems thinking: Keep a global reflective distance, understand complexity and make adjustments

Reference frameworks also allow training plans to be developed based on an analysis of training needs. According to Turcotte (2013), training based on frameworks can contribute to reflective practice by providing conceptual and ethical guidelines that foster critical analysis and action.[10] For human resource management departments, competency frameworks provide a tool for guiding recruitment and internal mobility processes. In addition, they not only concern individuals, but "provide a vision of what needs to change in professional practice and thereby show the changes that an enterprise or institution must implement" (Ibid, p. 39). [Translation] They can thus contribute to major organizational changes, such as the implementation of population-based responsibility in the health and social services network, as mentioned in the discussion of the background in Chapter 1.

However, Turcotte (2013) raises several issues associated with competency frameworks. We will discuss two of them here. First of all, when such frameworks are used in a prescriptive manner, they can stifle the creative and innovative potential of individuals. Since frameworks do not perfectly reflect the reality of an occupation, they should be considered "commodities with certain limitations" (Maury, 2006, in Postiaux, 2010, p. 18). [Translation]

Secondly, frameworks can come in two extremes: (1) a precise and detailed description of competencies that can be used for measurement purposes, but that can be overly technical or even Tayloristic; and (2) overly vague statements that cannot be operationalized. Therefore, it is important to find the right balance between these two risks.

Translating the concept of competency into a tool like a competency framework shows how complex it is to apply a competency-based approach. Due to the many challenges involved, it is a good idea to explore the way in which this question is approached by looking at framework use in different geographical contexts and public health areas. We will discuss this issue in the following sections of this advisory based on the results of the literature review and the exploratory interviews.

[10] It should be noted that Turcotte (2013) was looking at a specific case of framework use in social work.

4 METHODOLOGY

Two data collection strategies were used: a literature review and exploratory interviews. This chapter provides a brief description of these strategies and the main characteristics of the research reviewed, in addition to explaining how the data were analyzed using triangulation. Twenty-five additional publications are referred to in the advisory and they were used to develop the research question and the conceptual framework, as well as to stimulate discussion and the identification of courses of action (see the References section, which groups the references according to type).

4.1 Literature review

4.1.1 Type of review conducted

It was difficult to determine exactly what type of literature review should be used. Many different types exist and they overlap one another. Moreover, they are based on different characteristics: objectives, presentation, type of studies reviewed, etc. (Booth et al., 2012; Framarin and Déry, forthcoming; Gough et al., 2012).

In this review, it should be mentioned from the outset that it was not possible, or even *desirable*, in our opinion, to do a systematic review in due form. Indeed, a systematic review can be done when:

- the field of research is disciplinary,
- the knowledge base is homogeneous,
- the problem is recognized and specific,
- the research question is precise, and
- the aim is to test theories (Dixon-Woods et al., 2006; Gough et al., 2012).

However, in our case,

- the research fields were interdisciplinary,
- the knowledge base was fragmented from an empirical and conceptual standpoint (as can be seen in Table 1, section 4.2),
- the problem was emerging and complex,
- the research question was broad, and
- the aim was to explore a phenomenon — the use of competency frameworks in pubic health — and to identify trends.[11]

[11] For information on the "feasibility" and "desirability" criteria for conducting a systematic review, see Table 10 in Appendix 3.

That being said, we strove to transcend the limits sometimes associated with "so-called" traditional literature reviews, such as the risk of bias in the choice of articles, a lack of transparency and the incorporation of research based on poor-quality methodology (Framarin and Déry, forthcoming, p. 15-16). Therefore, where possible and appropriate, we adopted certain strategies associated with a systematic *approach* (Booth et al., 2012), including systematic searching of databases, adoption of inclusion and exclusion criteria, assessment of methodological quality and in-depth data review. These strategies are discussed in detail in the next few pages. Table 11 (Appendix 2) presents the criteria met or not met for using a systematic approach[12] and provides additional details where relevant. Ultimately, the introduction of these systematic or partially systematic strategies led us to call our work a **narrative review with a "degree of systematicity"** (Framarin and Déry, forthcoming, p. 21).[13] [Translation] For the sake of clarity, a narrative review is understood here to be a literature review aimed at presenting the state of knowledge in the scientific literature published on a specific subject (Ibid.), while reporting the results derived from the analysis of different types of data, presented in textual and sometimes tabular form (Booth et al., 2012).

4.1.2 Description of the review process

First of all, a literature review was carried out in five databases (Medline, ERIC, Health Policy Reference Centre, Political Science Complete, PsycInfo and Public Affairs Index). A combination of key words was used to represent the concept of "competency frameworks" and the concept of "use" (see complete syntax in Appendix 1). To focus the research, the key words used had to be found in the title or the abstract of a study. This first step identified 1701 potentially relevant references.

The 1701 references were then transferred to bibliographic reference management software, and duplicates (n = 904) were excluded. The titles and abstracts of the remaining 797 references were then examined according to the following inclusion criteria:

- Date of publication: as of 2013.
- Language of publication: French or English.
- Area of intervention: health, public health.

[12] The criteria largely repeat those proposed by Booth et al. (2012).

[13] It should also be mentioned that our literature review was more detailed than a scoping review, which is usually defined as "a type of preliminary assessment of the amount and scope of available literature on a given subject" [Translation], which aims to determine whether it is relevant to go ahead with a systematic review or an empirical study (Framarin and Déry, forthcoming). More precisely, a scoping review is simply "a rudimentary attempt at synthesis and an analysis that caricatures the quantity and distribution of the literature" Booth et al., 2012, p. 25). Lastly, it does not usually include an assessment of the quality of the sources selected (Ibid.)

- Practice setting: competencies and career development among professionals and managers in North America, Europe and Australia. Articles that focused too much on clinical/biomedical practice and those that dealt only with academic or school settings were excluded.
- Content: The articles had to discuss at least one of the two following themes: (1) a process for implementing or using competency frameworks (rollout, putting in place, assessment tools, and use assessment); (2) the challenges/obstacles or facilitating factors related to the implementation or use of competency frameworks (e.g. work organization, framework format, individual motivation, etc.).

741 references were excluded following the application of the inclusion criteria. The other references (n = 56) were read in full. In all, 11 documents met all of the inclusion criteria.

Next, the references cited in the bibliography of these 11 documents (n = 256) were examined (snowball strategy). On the basis of the same inclusion criteria, 219 references were excluded after the title and the abstract were read, and 15 additional references were excluded after the full text was read. The snowball strategy thus enabled us to find two additional documents that met the inclusion criteria as a whole.

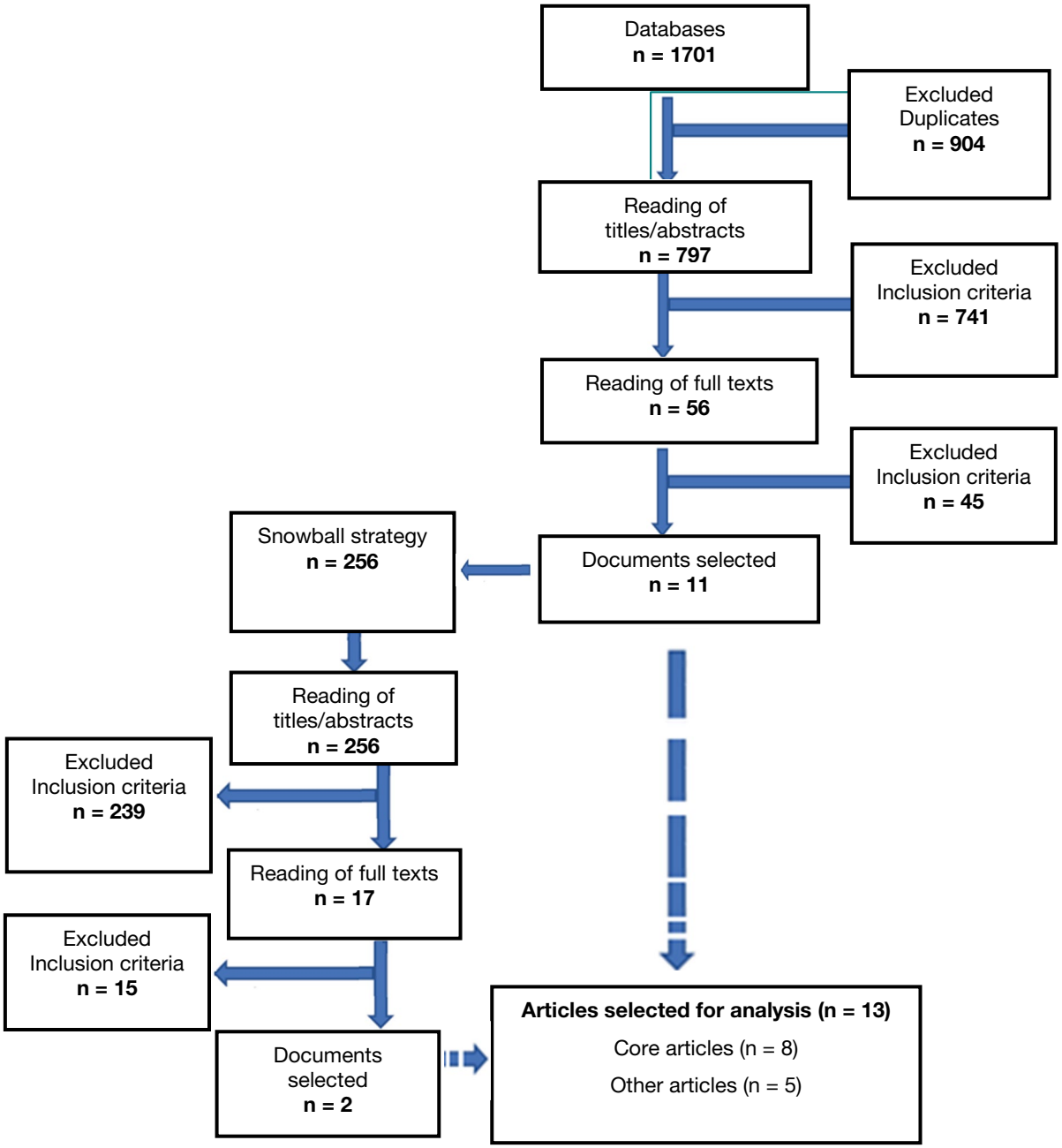
Of the 13 final documents selected, only 8 were identified as core articles. Therefore, most of our results are based on these 8 articles. Nonetheless, 5 other documents that were somewhat less relevant because of the setting targeted (e.g. university education sector) and/or the area targeted (e.g. biomedicine) were analyzed in depth. It was decided that certain aspects of these documents were transferable and could be used to enrich or contextualize the results (e.g. actual or potential types of use or factors that influence use) or to add to the salience of a factor.

Lastly, it should be noted that methodological quality was assessed in conjunction with relevance using the mixed methods appraisal tool developed by Hong et al. (2018). This tool looks at the clarity of research questions or objectives, the degree to which data collection and analysis strategies are aligned with those objectives, the degree to which interpretations are empirically substantiated, and the criteria usually associated with the different types of quantitative research (randomized, non-randomized and descriptive) and mixed methods studies. No documents were excluded because of poor methodological quality, although this aspect was taken into account in interpreting the results.[14]

Figure 1 on the next page illustrates the document selection process in chart form.

[14] Certain results with a very low level of evidence were excluded; for example, results that would have required a higher response rate to be significant. However, level of evidence is not always a relevant criteria for eliminating a result; for example, if a type of use or an impact is mentioned only once in a qualitative questionnaire, this does not mean that this aspect should not be taken into account, for it may have a determining impact on strengthening the use of competency frameworks.

Figure 1 **Document selection process**



4.2 Description of the core documents selected for analysis (n = 8)

Table 1 shows the main characteristics of the research designs of the **eight core articles selected**.[15] All of the documents concern basic research, apart from the scoping review conducted by Battel-Kirk and Barry (2019a). All of the studies deal with framework use, although some delve more deeply into its impact.

The **methodologies** used in these studies are diverse, although most of them (n = 5) involve an online nonprobability survey, without knowing the size of the population targeted, except in the case of Nash et al. (2016). In three of these cases, the survey was completed through interviews or consultation workshops with target groups (as in the case of Cotter, 2015). The other studies adopted the scoping review method (Battel-Kirk and Barry, 2019a), focus groups (Stanford, 2016) and a multiple-case study (Battel-Kirk and Barry, 2019c).

The **areas or functions, settings and populations targeted** in these studies also vary: infection prevention and control, health promotion, pharmaceutics, hospital-based nursing care and public health in general. The research sometimes includes university education, as well as professional practices.

[15] Appendix 2 presents the main characteristics of the studies analyzed but not selected as core articles (n = 5).

Table 1 Main characteristics of the research designs used in the eight core articles

Authors, geographical area	Objective(s)	Type of publication	Methodology	Theoretical approach	Areas/functions and professional contexts	Target population	Main transferability issues
Burnett et al., 2014 United Kingdom	Identify the scope of access to the IPC competency framework and of its use, its perceived potential impact and the barriers to its use.	Peer reviewed article	Online survey	Outcome logic model	Infection prevention and control (IPC)	Nurses, physicians, microbiologists and managers with IPC responsibilities	Predominance of the biomedical dimension[16] (secondary or tertiary prevention)
Cotter, 2015 United Kingdom	Characterize practitioners' perception of the competencies they need in current and future practice, and of the relevance of the Public Health Skills and Knowledge Framework (PHSKF).	Research report (grey literature)	Consultation workshops, online survey, e-portfolio (skills passport)	n.a.	Public health	Representatives of the public health workforce as a whole; different levels and sectors	Geography
Nash et al., 2016 Australia	Determine the extent of use and perceived relevance of the National Competency Standards Framework	Peer-reviewed article	Qualitative interviews, online survey, Statistical tests, Thematic analysis	Pragmatic (Creswell, 2013)	Pharmacy practice	Pharmacy students, interns, pharmacists and educators,	Predominance of the biomedical aspect (dimension)

[16] Fournier (2003) interprets the field of public health as being composed of several dimensions (including the biomedical dimension) that are promoted to a greater or lesser extent depending on the context.

Table 1 Main characteristics of the research designs used in the eight core articles (cont.)

Authors, geographical area	Objective(s)	Type of publication	Methodology	Theoretical approach	Areas/functions and professional contexts	Target population	Main transferability issues
Stanford, 2016 United Kingdom	Examine perceptions as to whether a competency framework for advanced practice can support clinical practice.	Peer-reviewed article	Questionnaire and group discussion	Interpretative, inspired by grounded theory (highly inductive)	Nursing care in a hospital setting	Nurse practitioners	Predominance of the clinical dimension AND influence of the issue of nurse practitioners' status
Battel-Kirk and Barry, 2019a. Sources published in English, pertaining mainly to Europe	Explore the current status of the use of a competency-based approach, including the use of competency frameworks, and their impact on practice, education and training.	Peer-reviewed article	Scoping review between 2009 and 2017	n.a.	Health promotion	Practitioners, managers, academics, educators, and policy decision makers	Limited to health promotion AND Certain results concern university settings
Battel-Kirk and Barry, 2019b. Europe	Assess awareness, knowledge, attitudes, current use, intentions for future use, perceptions of the factors which facilitate or limit use, and the impact of the CompHP Competencies on practice, education and training.	Peer-reviewed article	Online survey, Quantitative analysis: descriptive, Qualitative analysis: thematic	n.a.	Health promotion	Educators, academics, practitioners, managers	Limited to health promotion AND Certain results concern university and community settings.

Table 1 Main characteristics of the research designs used in the eight core articles (cont.)

Authors, geographical area	Objective(s)	Type of publication	Methodology	Theoretical approach	Areas/functions and professional contexts	Target population	Main transferability issues
Battel-Kirk and Barry, 2019c. Ireland and Italy.	Assess the adoption and impact of the CompHP Core Competencies Framework.	Peer-reviewed article	Case study	Consolidated framework for advancing implementation science (Damschroder et al., 2009)	Health promotion	Educators, academics, practitioners, managers	Limited to health promotion AND Certain results concern university and community settings.
Bornioli et al., 2020. United Kingdom.	Determine the impact of the Public Health Skills and Knowledge Framework on the workforce and employers and describe its use, usefulness, ease of use and extent of use.	Peer-reviewed article	Online survey and one-on-one telephone interviews	n.a.	Public health	Practitioners, specialists, managers and public health academics	Certain results concern university and community settings.

4.3 Exploratory interviews

During the COVID-19 pandemic, it was impossible to interview employees in the health and social services network or key informants in human resources outside of public health (e.g. in businesses).

Thirteen semi-structured interviews lasting 30 minutes to an hour were conducted to complete the literature review using empirical material. The data obtained in analyzing the interviews were used primarily to enrich and contextualize the results of the literature review.

Due to the exploratory nature of the interviews and the limited amount of time available to conduct them, we decided to interview people who worked for the most part at the INSPQ. Participants were recruited on the basis of suggestions made by one of the authors of the advisory and, in a few cases, by third parties. The participants had to meet the following criteria: (1) be fairly well acquainted with frameworks (because they had helped to develop one or had used at least one quite intensively); (2) be sufficiently familiar with all of the types of framework under study; and (3) be acquainted with a variety of types of framework and/or areas of use.

The themes discussed corresponded to the objectives announced in Section 2 (see Appendix 3 for the interview guide). Note that semi-structured interviews are similar to "active" interviews, that is, interviews that usually take the form of a dialogue (Boutin, 1997). This type of interview is especially productive when "both the interviewer and the interviewee are stakeholders in the matter under study — when both of them really want to understand it." (Boutin, 1997, p. 16). [Translation] However, this strategy involves setting aside the interview guide when it is deemed appropriate to do so.

Twelve of the interviews were conducted with members of the INSPQ and one person working at the Direction de santé publique du CIUSSS de la Capitale-Nationale. The interviewees included five scientific advisors, four medical advisors, one manager, two labour union representatives and one human resource manager. When comments could be attributed to a specific person, they were assigned the following codes: "CSn" for the scientific advisors (where "n " was a number used to identify a person), "MCn" for the medical advisors, "G1" for the manager, "RSn" for the labour union representatives, and "RH1" for the person working on the human resource management team. See Appendix 4 for a more detailed description of the people associated with the frameworks under study and who took part in the interviews.

4.4 Data analysis

The data were analyzed based on the three objectives of the present study: (1) describe the **factors** that have an impact on the use of frameworks; (2) identify the different **types of** framework **use**; and (3) describe the perceived **impacts** of framework use. The main method used to reduce the data was thematic analysis, or "the transposition of a given corpus of data into a number of themes representative of the content being analyzed in relation to the direction of the research question" (Paillé and Mucchielli, 2016). [Translation] Bearing in mind the above-mentioned objectives, the relevant information derived from the 13 documents selected was divided into categories using a rubrics grid.[17] First of all, formal rubrics were selected: objectives, context, type of research, theoretical approach, and methodology. Then, the following rubrics were used: results associated with the degree of framework use; types of use; relevance and perceived benefits; and structural, organizational, and individual factors, associated with the content, form and implementation process. Assigning themes made it possible to identify categories grouping several themes in a very inductive manner. That being said, the categories were compared iteratively with other categories derived from the work of various authors in this area: Damschroder et al. (2009) for use factors; Brahimi et al. (2011) for types of use; Gervais et al. (2016) and Lemire et al. (2009) for the impacts or benefits of use.[18]

The interviews were also analyzed using thematic analysis (Paillé and Mucchielli, 2016). First, as we listened to the recordings, we wrote down the key elements of the interviews using a rubrics grid, as we had done in analyzing the articles. Each interview was analyzed separately in order to identify the themes and sub-themes for each rubric. Lastly, the elements were analyzed transversally in order to verify the recurrence of certain themes, detect overlapping, identify convergent or divergent themes, and so forth. The tables presented in Chapter 5, on the results, served as thematic trees.

4.5 Peer review

The present advisory was reviewed by two internal reviewers and one external reviewer. The main objectives of the review were to improve the advisory's overall quality and gather comments about the relevance of the proposed courses of action. The review was conducted using a review framework prepared by the INSPQ (see Robert and Déry, 2020, p. 9). To process the comments received, the project team created a table that listed each comment, identified which ones were selected or rejected, indicated why they were selected or rejected, and explained how they were dealt with in the final version.

[17] A *rubric* [Translation] "is a fairly abstract concept in relation to content analyzed" and it is used to classify an excerpt (or a theme) without revealing the content (Paillé and Mucchielli, 2016, p. 243).

[18] These sources were used to compare results other than those mentioned.

5 RESULTS OF THE LITERATURE REVIEW AND THE EXPLORATORY INTERVIEWS

The results presented in this chapter address objectives 1 to 3 of this advisory. Each section is associated with an objective: (1) describe the factors that have an impact on the use of competency frameworks in public health; (2) identify the different ways in which these frameworks are used; and (3) describe the impacts of their use. The results presented in this section include data from both the exploratory interviews and the literature review.

5.1 Factors related the use of competency frameworks in public health

This section addresses objective 1 of the advisory. It discusses the structural and organizational factors associated with the content, form and implementation of competency frameworks in public health. As mentioned earlier, these categories were developed in a highly inductive manner using thematic analysis. That being said, an iterative comparison was conducted with the Consolidated Framework for Implementation Research developed by Damschroder et al. (2009). This framework provides a unified structure made up of several models, theories and key frames of reference associated with implementation sciences. It can thus be adapted for different purposes and contexts. It comprises five factor domains:

- **intervention characteristics**: This applies to frameworks that are designed as interventions, but that we also consider to be knowledge that should be transferred.
- **outer setting**: This corresponds to the factors associated with the "structures" of society and the field of public health.
- **inner setting**: This corresponds to the factors associated with Québec's public health network and its organizations.
- **characteristics of individuals**: This includes the characteristics of framework producers and users.
- **characteristics of the implementation process**: Basically, this concerns framework transfer strategies.

We also found it appropriate to identify framework use factors using publications associated more directly with knowledge transfer. With this approach, framework content is considered knowledge that is to be mobilized or transferred. In that context, knowledge use can be defined as "the stage in the transfer process during which knowledge from research and practice is actually applied or converted into interventions, programs, policies, and so forth" (CTREQ, 2017). [Translation]

A number of classifications have been proposed, including that of Lemire et al. (2009), which comprises the following categories of determinants (or factors):

- **determinants related to knowledge transferred:** among other things**,** the alignment of knowledge produced and users' needs, the quality of knowledge produced and its accessibility, relevance, usefulness and applicability, as well as the format and language in which it is transferred;
- **determinants related to actors:** the characteristics of knowledge producers (their credibility, involvement in networks, ability to interact, etc.) and knowledge users (experience in applying knowledge, the value they attach to research, level of education, etc.);
- **determinants related to organizational characteristics**: culture of innovation, time allocated to learning, level of resources available, degree of autonomy given to staff, and so forth.

5.1.1 Structural factors

The structural factors identified in the literature review are based in part on what Damschroder et al. (2009) call the "outer setting." This setting may be defined as all of the factors associated with the economic, political and social dimensions of the society in which an organization or a network of organizations operates (Ibid.). These authors identify four specific "constructs": (1) the degree to which an organization knows and takes into account the needs of specific populations; (2) the degree to which an organization networks with other organizations; (3) peer pressure — typically from other organizations that have implemented the same intervention; and (4) external policies and incentives, that is, strategies outside an organization that help to spread interventions. However, in this study, the concept of *structure* is broader: in its sociological sense, it designates the complex arrangement of the relatively stable elements of a social system (Boudon and Bourricaud, 2011). A structure is cross-cut by social relations and consists of social norms, rules, institutions, fields of practice, and so forth.

The following table combines the main structural factors identified in the literature review and the interviews — even though not very many of them were actually mentioned in the interviews, except for the presence of an accreditation system or process. The table has two "focuses,"[19] the first of which concerns factors relating to the **stability, importance and degree of structuring of the field of public health**, and the second, factors that have **a more direct impact on framework use.**"[20].

[19] We use the concept of "focus" to emphasize the fact that we are not dealing with well-defined categories, but rather with core meanings that attract similar elements.

[20] This does not mean that this type of determinant is more important, but that the chain of causal relationships is shorter.

Table 2 Structural factors related to the use of competency frameworks in public health[21]

Focus	Structural factor	Component(s)	References
Factors associated with the stability, importance and degree of structuring of the field of public health	**Issues related to the definition of the field/area/ function and the profession**	Issues related to boundaries between professional identities	(Battel-Kirk et al., 2008) **(Battel-Kirk and Barry, 2019a)**
		Overlapping of public health in general and health promotion	**(Battel-Kirk and Barry, 2019a)**
	Degree of public and institutional recognition of the field/area/function and the profession	Struggles for the legitimacy of the paradigm: health promotion *versus* the biomedical paradigm in public health	(Battel-Kirk and Barry, 2019b) (Battel-Kirk et al., 2008)
		Diversity of the health promotion workforce in terms of roles, job titles and educational backgrounds	**(Ba ttel-Kirk and Barry, 2019a)**
		The absence of public health areas in job titles (in this case, health promotion)	**(Battel-Kirk and Barry, 2019a)**
	Degree of institutionalization in university education	Coherence of curriculum development and the organization of competencies in frameworks	**(Battel-Kirk and Barry, 2019a)** (Battel-Kirk and Barry, 2019c) (Nash et al., 2016)
	Amount of resources and structures at the national level	Importance (size, power) of the specialized workforce in a particular field	**(Battel-Kirk and Barry, 2019a)** (Battel-Kirk and Barry, 2019c)
		Number of associations (organizations) working in the field or area	**(Battel-Kirk and Barry, 2019a)**

[21] Since the research conducted by Battel-Kirk and Barry (2019a) was a literature review, the results associated with it often have a higher "level of evidence," in the sense that the research is usually cited by several empirical studies .This relative "weight" is indicated by the use of **bold** text.

Table 2 Structural factors related to the use of competency frameworks in public health (cont.)

Focus	Structural factor	Component(s)	References
Factors associated with the stability, importance and degree of structuring of the field of public health	**Evolution of public structures and policies in the health care system**	Political pressure to increase the flow of resources to health care	(Battel-Kirk et al., 2008)
Factors with a more direct influence on framework use	**Regulatory and judicial environment**	Mandates for the self-assessment of competencies in certain professions in certain countries	(Nash et al., 2016)
	Compatibility and complementarity of frameworks	Alignment between frameworks and the requirements of professional orders with a view to facilitating the accreditation process	(Cotter, 2015)
	Presence of an accreditation system	Presence of a national organization in charge of the process	(Battel-Kirk and Barry, 2019c)
	Regional disparities	Requirements that are sometimes too stringent in relation to regional contexts (fewer resources in rural areas, availability of training, etc.)	(Gallardo et al., 2012)
	Degree of cultural acceptability and relevance of frameworks	Past and current relations, as well as cultural differences between majority groups and marginalized ones such as First Nations	**(Battel-Kirk and Barry, 2019a)**

FIRST FOCUS: STABILITY, IMPORTANCE AND DEGREE OF STRUCTURING OF THE FIELD OF PUBLIC HEALTH

The first focus of the structural factors identified in this study is associated with fundamental issues[22] related to the **definition of a particular field, area or function** and the associated **profession**. The public health field is still in a state of flux in terms of its definition, practices and institutionalization (Fassin, 2008; Fournier, 2003; Gagnon et al., 1999; Parent et al., 2014). This can be explained by, among other things, the intrinsically heterogeneous, complex, and even "wicked" nature of some of the problems concerned (Morrison, 2013), and by the knowledge mobilized to understand these problems and intervene (biomedical knowledge, derived from social sciences, contextual knowledge,[23] etc.) (Gagnon et al., 1999; Parent et al., 2014). This overlapping of several different areas of knowledge and professions leads to legitimacy struggles between disciplines and schools of thought (Ibid.; Battel-Kirk and Barry, 2019a), making it more difficult to work toward obtaining **recognition of a field** and achieving **a greater degree of state institutionalization** (inclusion in laws, policies, national strategies, programs, job titles, etc.). The problems surrounding the institutionalization of public health also take the form of a lack of organizational levers for implementing a competency-based approach in that field and, ultimately, for using competency frameworks.

Battel-Kirk and Barry (2008; 2019a) have identified **debate over the definition** of health promotion and the **lack of recognition** of this field as being both a barrier to and a driver for framework use:

1) First of all, they constitute a **barrier** in the sense that practice that is not very systematic is considered, rightly or wrongly, as being too vague. Therefore, such practice does not translate easily into a language that fosters its recognition by people in positions of authority and thus the implementation of levers that promote its development. For example, job titles in public health do not always include the term "health promotion" even though such professional practices are part of this public health function (Battel-Kirk and Barry, 2019a).
2) At the same time, the need to formalize the public health field and obtain the recognition of professionals constitutes a **driver** or a motive to engage in the objectification exercise of developing and using competency frameworks.[24] In other words, such frameworks can serve as a "political tool for professionalization" (Molina, 2013). [Translation]

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[22] An *issue* is a concern, problem or question that requires thought and discussion (several elements are *at stake*). The decision made will indicate the direction to be followed. An issue is different from a *challenge*, which implicitly refers to an obstacle that must be overcome and that appears in a trajectory that has already been decided on.

[23] For Gagnon et al. (1999), contextual knowledge corresponds to professional knowledge and skills.

[24] In other words, developing a framework makes it possible to put into words practices and knowledge that people are not very aware of, to clarify those practices and knowledge and to make them more systematic. The use of frameworks also makes this possible from an individual standpoint. This process is described in Section 5.3.2 on the impacts of framework use.

State institutionalization influences, and is influenced by, a similar factor known as the **degree of institutionalization in university education**. Consistency between curricula and frameworks is a factor that facilitates framework use for both continuing education professionals and graduates. The more the public health field has its own training programs, the more frameworks are likely to be used for developing curricula. Alignment between university training programs and frameworks intended for the workplace fosters their credibility and buy-in among decision makers (Battel-Kirk and Barry, 2019a). Such consistency also helps to foster familiarity with frameworks for people who have received training based on them (Nash et al., 2016).

The first focus of the structural factors discussed here also includes, as the concrete manifestation of various forms of recognition, the **amount of resources** (such as workforce size and decision-making power) **and of structuring initiatives at the national level** (such as the number of associations or organizations). The amount of resources allocated to public health also depends on **the evolution of public policies in health care**. These policies, which are often modified, can mobilize a large share of resources from the global envelope allocated to heath, which includes pubic health. Therefore, fewer resources may be devoted to public health when changes are made in health care policies (Battel-Kirk et al., 2008).

SECOND FOCUS: MORE DIRECT RELATIONSHIP WITH THE USE OF FRAMEWORKS

The second focus of the structural factors identified in this study is related more directly to the use of competency frameworks. First of all, it includes **the regulatory and judicial environment**, which can include mechanisms making it compulsory to take part in continuing education in a particular profession. For example, professional orders that require continuing education can recommend or make it compulsory to use frameworks for drawing up competency development plans. Nash (2016) notes in this regard that even though self-assessment of competencies in the pharmacy profession is **mandated annually** by the Pharmacy Board of Australia, it is not actually used to any great extent. Therefore, this "compulsory" mechanism is insufficient.

Secondly, **the compatibility and complementarity of frameworks** within a given county have been reported to be factors that facilitate, in particular, the alignment of frameworks with the requirements of professional orders, which can in turn facilitate the accreditation process. Our exploratory interviews provided some information in this regard. M4 said that "several professional orders are directly or indirectly associated with the field of public health (psychology, social work, urban planning, etc.)." [Translation] Since frameworks are useful for preparing competency development plans, M4 also said that "additional work on the frameworks [covered by this study] in order to facilitate their **alignment** with the requirements of the different professional orders could facilitate this process." [Translation]

Regional disparities can also have an impact on framework use. In this regard, Gallardo et al. (2012) said that regions located at a distance from large urban centres are usually at a disadvantage as far as resources are concerned. What is more, a public health function like health promotion can only be a part of the mandate assigned to a person in a given region. Frameworks may then appear to be overly demanding in regard to the professional roles[25] of individuals and the conditions in which they operate (Ibid.) — especially when it comes to the availability of training, the time allocated for taking it, informal learning opportunities, and so forth.

Lastly, in the area of health promotion, **cultural and systemic differences between majority groups and marginalized groups**, particularly First Nations, were identified as a primary factor in contexts where that factor applied. Although the documents identified in the literature review did not specify the factor's content, we can assume that needs, resources, power of the different people who represent these communities in the health system, confidence in health institutions and social representations of health are aspects that must be taken into account and that may influence framework use.

5.1.2 Organizational factors

Organizational factors concern the inner setting (Damschroder et al., 2009) of organizations involved in the use of frameworks. They correspond to the tangible and intangible manifestations of structural characteristics, networks, organizational culture and readiness for implementation (Ibid.). Once again, most of the results of the interviews are in line with those of the literature review. Only one factor was not explicitly identified in the review, namely, **the presence of a person responsible for providing coaching on framework use**.

The following table combines the main organizational factors identified in the literature review and the exploratory interviews. These factors can be divided into three main categories: (1) **main organizational directions**; (2) **role of managers**; and (3) **presence of mechanisms and tools**[26] that directly promote framework use.

[25] A professional *role* is considered to be different from a professional *title*. This is because a person can take on a role in management, research or knowledge transfer, for example, without having a corresponding professional title.

[26] In this advisory, a mechanism is considered to be a group of measures, means or tools designed for a specific intervention (e.g. programs, training sessions, meetings, mentoring, dedicated budget, accreditation, collective competencies, etc.). As for a process, it is a continuous series of operations or actions that are united to some extent (planning, monitoring, follow-up, assessment, etc.). A process involves a certain momentum, while a mechanism is static. From this standpoint, a process can include various mechanisms.

Table 3 Organizational factors related to the use of competency frameworks in pubic health

Factor category	Organizational factor	Component(s)	References
Main organizational directions	Alignment between organizational and national objectives	Alignment of frameworks with organizational and national objectives	(Cotter, 2015)
	Availability and allocation of resources	Resources: a cross-cutting issue at all levels	**(Battel-Kirk and Barry, 2019a)**
	Time available for and dedicated to framework use and continuing education	Planned time among other professional priorities	(Burnett et al., 2014)
Role of managers	Encouragement on the part of managers	Awareness of the existence of frameworks, familiarity with frameworks and integration into management processes	(Burnett et al., 2014) (Cotter, 2015) **(Battel-Kirk and Barry, 2019a)** (Bornioli et al., 2020)
	Competence of manager in the area/function	Knowledge and competencies associated with the area (in this case, health promotion)	(Battel-Kirk and Barry, 2019a)
	Knowledge of practitioners' need for autonomy	Autonomy in terms of continuing professional development	(Burnett et al., 2014)
Presence of mechanisms and tools	Human resource mechanisms and processes	Recruitment processes and integration into self-assessment mechanisms (such as the individual performance assessment programs at the INSPQ)	(Bornioli et al., 2020)
	Collective competency development programs	For example, during annual meetings on the development of teams	(Burnett et al., 2014)
	Related to training	Workshops and training on the use of frameworks	**(Battel-Kirk and Barry, 2019a)**
	Person responsible for providing coaching on framework use[27]	Person specialized in competency development providing mentoring or periodic coaching	G1, RH1
	As part of quality assurance procedures	Application of the quality assurance principle to, for example, the evaluation and development of collective competencies.	**(Battel-Kirk and Barry, 2019a)**

[27] Bold type is used to highlight determinants that were mentioned only in the interviews. It is also used to indicate that the results of the scoping review by Battel-Kirk and Barry (2019a) often have relatively more weight.

The first factor associated with the main organizational directions concerns the relationship between organizations and the state. **Alignment between organizational and national objectives fosters the use of frameworks** when the latter are effectively linked to those objectives at different levels. The **availability and allocation of resources** is also particularly important since it influences the implementation of mechanisms that facilitate framework use.

The second category of factors concerns the role of managers. One of the factors often said in the literature and the interviews to lead to the use of frameworks is **encouragement on the part of managers**, which can translate into work planning that makes room for **time devoted to training and self-learning**. **Managers' competencies in the area of frameworks** (e.g. in health promotion) have also been identified as facilitating factors. The same is true of **the knowledge managers have regarding practitioners' need for autonomy** in developing their competencies. Interestingly, although **encouragement on the part of managers** may be a major facilitating factor in the use of frameworks, research by Burnett (2014) has shown that when the decision to implement a framework is made *a priori* from above (i.e. using a *top-down* approach), the people who have to put it into practice are less sure of its benefits. In fact, in the same study, **most of the respondents who used frameworks said that this was a personal decision** (i.e. a decision made using a *bottom-up* approach.

These observations resonate with some of the information derived from the analysis of the interviews. For example, CS2 said that, to motivate people to use frameworks, the latter "must really be attached to concrete needs or problems experienced by potential users." [Translation] Similarly, according to M4, using frameworks for the purpose of self-assessment should not "seem like another bureaucratic mechanism that needs to be complied with, but must serve to support users' professional development. In other words, it must be something positive and not just another complicated procedure." [Translation] Therefore, if the goal is to foster simultaneous participation of managers and employees in the implementation of reference frameworks, a promising approach would be to initiate collective reflection on the implementation of such frameworks within a team.

Moreover, the interviews revealed that in some cases "frameworks are not self-supporting" [Translation] (G1): they require mechanisms and tools to facilitate their use. The presence of mechanisms and tools is thus the third major category of organizational factors. It encompasses **mechanisms and processes in human resource management**, including recruitment processes, and **programs for the development of collective competencies within work teams**, which in turn foster the use of frameworks for personal purposes. Staff are more likely to draw up a personal competency development program based on frameworks if they can link the program to a collective process. Not surprisingly, this third category of organizational factors also includes **training mechanisms**, that is, workshops aimed at supporting the use of frameworks in actual practice. The interviewees also mentioned the **presence of a person responsible for providing coaching** on the use of frameworks within organizations. Lastly, the

assessment of collective competencies, for example, could **be included in quality assurance procedures** and thus provide an additional incentive for framework use.

5.1.3 Factors related to content

This type of factor corresponds to what Damschroder et al. (2009) call the "characteristics of the intervention" in implementation science. In the area of knowledge transfer, people instead refer to the "characteristics of knowledge" they wish to transfer using various means. In the case that interests us here, we prefer to use the term "content" in order to avoid confusion between the concept of skills (as a component of complex knowledge on how to act) and the concept of "knowledge."[28] This involves making a distinction between "content "and "form".

The following table combines the main content-related factors identified in the literature review and the exploratory interviews.

[28] In fact, the term content is often used in education sciences to make a distinction between the focus of learning and teaching strategies.

Table 4 Content-related factors associated with the use of competency frameworks in public health

Factors related to content	Component(s)	References
Perceived relevance of frameworks	Perceived benefits and clarity of a framework's objectives and identification of target audiences	(Burnett et al., 2014)
Alignment of content with specific roles in the area/function	Presence of all the roles and themes related to pubic health	(Cotter, 2015)
Alignment of content with different levels of expertise	Presence of competency levels, e.g. novice, intermediate and expert	(Burnett et al., 2014) (Shilton et al., 2008) (Cotter, 2015)
Degree of complexity of knowledge to be transferred	Degree of abstraction of competencies and a large number of components / internal and external resources	**(Battel-Kirk and Barry, 2019a)**
Degree of difficulty involved in assessing competencies	Degree of difficulty involved in measuring competencies and some of their components, e.g. soft skills	**(Battel-Kirk and Barry, 2019a)**
Degree of precision of competencies	A high degree of precision can foster resonance with experience	(Shickle et al., 2019)
Risk of curtailing creativity	Reductionist and prescriptive nature of frameworks	**(Battel-Kirk and Barry, 2019a)** (Stanford, 2016)
Risk of undervaluing a person's experience	Risk of undervaluing the importance of experience and professional judgment in a field	**(Battel-Kirk and Barry, 2019a)**

Note that, compared to the structural factors, the factors related to the content of frameworks were dealt with in greater depth by the people taking part in the interviews. This might be explained by the fact that these people interact less often with structural factors in their regular public health practice.

The first content-related factor concerns the **perceived relevance of frameworks**. Their relevance is associated with their perceived benefits in regard to their objectives and the needs of their target audience. The second content-related factor concerns **the alignment of framework content with the roles associated with the area of public health covered by a particular framework** in the sense that the needs of people who use frameworks must be reflected by the themes dealt with in them. This factor was discussed especially by the participants in the exploratory interviews. In their opinion, the areas covered by frameworks are usually perceived to be sufficient. That being said, according to several participants, two cross-cutting issues in public health have not been sufficiently discussed, namely, **consideration of social inequities in health** (SIH) and **analysis of public policies**. CS1 said:

> Unfortunately, the question of SIH has not really been discussed. For example, apart from statements regarding social determinants identified as knowledge, most of the statements in the *Référentiel de compétences en prévention et promotion de la santé au Québec* (Martin, C. and Brahimi, C., 2014) are general and do not include considerations on SIH. About 10 years ago, the National Collaborating Centre for Determinants of Health made the same observation after analyzing public health competency frameworks at the national level. [Translation]

CS5 echoed these comments by saying that: "too often, SIH are analyzed and/or understood as income disparities, whereas socioeconomic inequality is a product of more complex social processes, involving relations tied to sex/gender, class, "race,"[29] and capabilities. Integrating this perspective would be a good way to foster the use of an intersectional approach[30] to SIH in the health networks." [Translation]

CS5 also said that: "there is a clear demand for a competency framework in public policies favourable to health" [Translation] in order to foster the development of analytical competencies and to influence public policies.

For M4, frameworks (or the tools related to them) "could be contextualized to a greater extent according to the setting, as in the case of school-based interventions. They could serve as examples." [Translation]

Most of the people interviewed agreed that there is a need to **develop a general public health framework** (in order to complete the frameworks based on areas or functions). They also said that taking SIH into account and public policy analysis could be part of that approach. M1 also reported that there is a need for a "core of basic knowledge in public health among

[29] Quotation marks are used here because of the current debate over the concept of "race". On the one hand, we are told that we should avoid using it due to the biological determinism to which it can refer. On the other hand, it is said that when this concept is taken as a social construct, it is preferable to use it if the goal is to get people to recognize the social phenomenon of racism. Therefore, we felt it was relevant to underscore this ambiguity with quotation marks.

[30] An intersectional approach pays particular attention to the interweaving of relationships of domination experienced by a social group (gender, "race," class, capabilities, etc.).

professionals. Several professionals in environmental health are very knowledgeable when it comes to the environment, but are less so when it comes to health or public health." [Translation] M2 agreed, saying that "[such a framework] would be good, for example, for occupational health and safety physicians who come from a curative setting. Transitioning from individuals to a population-based approach can be challenging." [Translation] For RH1, a general public health framework could support managers, more broadly, in "adopting a competency-based approach."[Translation] However, M4 disagreed, saying that "people who work in 'general public health' are rare. Perhaps they are resources that need to be rounded out; for instance, [knowledge such as] public health areas, social determinants, and so forth." [Translation]

Considering not so much the *content* itself but its *adaptation* according to target audiences, the literature review identified as a content-related factor **the adaptation of content based on levels of expertise** (e.g. novice, intermediate and expert), which is not found in the frameworks under study. According to the research reviewed, this question is still open to debate. While adding levels of expertise might make it easier to plan professional development, it could overly complicate and lengthen documents that are already known to be complex (Battel-Kirk and Barry, 2019a).

The **degree of complexity of knowledge to be transferred** is a particularly important factor for this study, especially since competencies are inherently complex. For M4, the literature on the competency-based approach is "hermetic . . . ; it is hard for the average person in active practice to understand." [Translation] According to RH1, the complexity of the competency-based *approach* is also an obstacle for senior management: "for them, the experience of developing a competency profile was difficult; some of them said that 'it was complicated and that they didn't know where they were going with it'." [Translation] In addition, integrating this approach in practices and management processes takes time, whereas staff recruitment, for example, is sometimes urgent (RH1).

Another major barrier to the use of frameworks is related to the complexity of the concept of competency, namely, the **degree of difficulty involved in evaluating and measuring competencies**. RH1 agreed: "The concept of competency can be abstract; compared to professional judgment or a diploma, it's hard to assess. A certain amount of subjectivity is involved. Case-law uses scientific knowledge." [Translation] It should also be noted that considerable value is placed on recognition of knowledge and level of education at the INSPQ. Versatility, on the other hand, is not valued as highly: "people develop a sense of self-worth, not through competencies, but by being specialized in a particular area" (RH1). [Translation]

For managers, the **complex, abstract and time-consuming nature of the competency-based approach** is out of step with traditional practices: "If [a manager] is focused on tasks within processes, on management methods, if performance assessments are based on tasks and deliverables rather than on competencies, managers will inevitably be less likely to provide

employees with the space they need to develop a competency that has no concrete and immediate impact" (RH1). [Translation]

Another factor associated with complexity is the **degree of precision of frameworks**, which can once again act as a facilitating factor or a barrier. If frameworks are too general and abstract, they may be unusable because they are too vague. However, a document with an overly high degree of precision can be too long and not very sustainable. According to most of the interview participants, the precision of the six frameworks under study is very appropriate.

Lastly, two risks were raised in the literature and are treated here as factors. First, there is the **risk that creativity will be curtailed** if frameworks are reductionist or overly restricting and thus limit the description of an area or a profession to incomplete, rigid and overly precise statements that cannot be readily adapted to different contexts. Assessing competencies using frameworks can **undervalue the experience and professional judgment of individuals,** owing in particular to the difficulties involved in the competency assessment exercise. This risk can have a negative impact on relations between labour unions and employers and ultimately undermine framework use. Not taking professional judgment into account in individual assessments could lead to misinformed judgements and have a negative impact on staff.

5.1.4 Factors related to form

As mentioned in the previous section, factors related to *content* have been distinguished from those related to *form* in this study. The latter have been included in the "concept of readability," which is a component of understandability that depends on both form and content. For Beaudet (2001, p. 10), understandability corresponds to "the combined coherence and consistency of texts, as well as the identification of strategies [implemented to facilitate the emergence of such coherence and consistency]". [Translation] Such strategies include aspects associated with the microstructure of texts (readability), namely, the internal arrangement of each sentence and the use of "simple writing."[31] We have also included the concept of support (Web, PDF, paper documents, etc.) in form-related factors, as well as the organization of information (charts, tables, categories, etc.).

The following table combines the main form-related factors identified in the literature review and the exploratory interviews.

[31] Beaudet (2001) is referring to the fascicles *Pour un style clair et simple*, Gouvernement du Canada, 1993, 62 p. and *Écrire simplement*, Fédération canadienne pour l'alphabétisation en français, 1995, 62 p.

Table 5 Form-related factors associated with the use of competency frameworks in public health

Factors related to form	Component(s)	References
Readability	Presence of "jargon"	(Battel-Kirk and Barry, 2019a) (Burnett et al., 2014) (Cotter, 2015) (Nash et al., 2016)
	Length and number of texts	
	Availability of translations into minority group languages	

In the literature reviewed, **readability** refers essentially to the presence of "jargon," the length of texts and the availability of translations into minority group languages. The same observations can be made based on the results of the interviews. For some of the participants, the **language** used in the frameworks under study was complex: "a lot of text, a lot of content" (G1). [Translation] However, CS2 and M3 said that organizing the information in tables made it much easier to use: "the tables allow you to get your bearings." (CS2). [Translation] However, M3 said that: "you need to be somewhat interested in or have a basic understanding of this type of tool in order to use it." [Translation] Lastly, it goes without saying that having frameworks that are translated into the language of minority groups (e.g. French-speaking and Indigenous groups) facilitates their use.

Although readability is an isolated factor, it is considered to be important given that it was mentioned very often in the literature reviewed and fairly often in the interviews. It is also of interest because it makes it possible to keep abreast of potential changes aimed at increasing framework use; in other words, it is easier to act directly on frameworks than on structural factors, for example.

5.1.5 Factors associated with the framework implementation process

This section discusses the factors associated with the implementation process. According to Damschroder et al. (2009), this process includes four essential activities: planning, engaging, executing, and reflecting in regard to an intervention or an activity.

The following table combines the main factors associated with the competency framework implementation process (and to a lesser extent, the competency-based approach) identified in the literature review and the exploratory interviews.

Table 6 Implementation-related factors associated with the use of competency frameworks in public health

Factors associated with the implementation process	Component(s)	References
Presence of an implementation strategy	Presence and implementation of a framework implementation strategy or a competency-based approach	(Gaboury et al., 2018)
Cost of implementation	Complex, time-consuming and costly nature of developing and implementing a competency-based approach	**(Battel-Kirk and Barry, 2019a)**
Appropriate dissemination strategy	Communication activities aimed at making frameworks accessible, including on Web platforms	(Burnett et al., 2014)
Presence of multiplying agents (champions)	Presence of people particularly engaged in the use of frameworks	(Battel-Kirk and Barry, 2019c)

Despite the limited number of specific factors identified, the implementation process category is very important for all interventions. It includes **the presence of an implementation strategy** or, more precisely, of a structured strategy for promoting frameworks and encouraging their use. Several reasons might explain the lack of strategies or the limited form of those selected, starting with the potentially high cost of some. Indeed, the framework implementation process and, *a fortiori*, the competency-based approach can be time-consuming and involve several organizational units because of the inherent complexity and cross-cutting nature of the concept of competency.

In regard to the frameworks under study, all the participants said that it was very likely that the **dissemination of these frameworks**, and more broadly, of a "roll-out strategy" **is insufficient** (RH1). [Translation] The people involved in developing the frameworks confirmed that **the knowledge transfer plan had not been carried out** due to the presence of other organizational priorities and a lack of resource people to complete the plan at the time. In addition, the participants talked about the problems associated with **current access to online frameworks** on the INSPQ's Intranet site or Web site (M1).

Even though an appropriate transfer strategy has not been implemented for the frameworks, the fact that they have been developed has certainly helped to make them known and to promote their use, at least in the short term. Nevertheless, CS3 noted that most of the people who had developed the frameworks, in particular the first one, no longer work in the health network: "almost all of the people who helped to develop the surveillance framework have retired, and this has reduced awareness about the existence of the frameworks and led to a loss of knowledge on their use." [Translation] Therefore, fewer and fewer people can act as **multiplying agents** and help to disseminate the frameworks and the competency-based approach.

5.2 Types of use of public health competency frameworks

This section addresses the second objective of this advisory, which is to identify the different types of framework use.

The actual uses of the six frameworks under study that were mentioned in the interviews are included, for the most part, in those identified in the literature review and in Brahimi (2011). However, some of these uses are not found in the literature, namely, the construction of analytical frameworks and the identification of knowledge and training needs, which are activities carried out in the knowledge transfer process (indicated in **bold** in Table 7). The elements associated with the symbol [**] correspond to the results of work by Shilton et al. (2008), derived from workshops to explore the *potential* uses of health promotion competency frameworks in Australia. Since these uses have not necessarily been put into practice, we preferred to identify them in this way. Lastly, the dotted line in the table encompasses areas that actually overlap one another.

Table 7 Actual and potential types of competency framework use identified in the literature review and the exploratory interviews

Area of use	Type of use	Specific use	References
Study or research	**Analysis and diagnostic assessment**	**Development of analytical frameworks and analysis of needs as part of knowledge transfer processes**	Mentioned several times in the exploratory interviews
Communication	**Advocacy**	Advocacy for health promotion with managers	(Battel-Kirk and Barry, 2019c) (Shilton et al., 2008)
		Explanation of the scope and relevance of health promotion to decision makers	(Battel-Kirk and Barry, 2019c) (Shilton et al., 2008)
Human resource management	**Recruitment**	Establishment of employment criteria	(Shilton et al., 2008)
		Development of job interview guides and interview assessment tools	(Shilton et al., 2008)
		Establishment of priorities for the induction of new staff	(Shilton et al., 2008)
	Work organization	Clarification of job roles	(Shilton et al., 2008) **(Battel-Kirk and Barry, 2019a)** (Burnett et al., 2014) (Stanford, 2016)
Management	**Strategic management**	Consolidation/refocusing of organizational directions	(Battel-Kirk and Barry, 2019c)
		** Facilitating organizational change (potential)	(Shilton et al., 2008)
		** Providing guidelines for staff supervision and performance management (potential)	(Shilton et al., 2008)
		Assessment of collective competencies	(Burnett et al., 2014)

Table 7 Actual and potential types of competency framework use identified in the literature review and the exploratory interviews (cont.)

Area of use	Type of use	Specific use	References
Development of competencies	**Supervision of interns**	Analysis of individual competency development needs, preparation of a plan, process evaluation, and support for mentoring	(Nash et al., 2016)
	Self-assessment	Self-assessment of competencies and preparation of a continuing professional development plan	(Nash et al., 2016) (Burnett et al., 2014) (Bornioli et al., 2020)
	Development of learning activities	**Development of exchange programs between professionals (potential)	(Shilton et al., 2008)
		**Implementation of a mentoring program for practitioners (potential)	(Shilton et al., 2008)
		Preparation of a continuing professional development program	(Burnett et al., 2014)
		Preparation of seminars or conferences	(Burnett et al., 2014)
	Development of university curricula	Curriculum development through collaboration between organizations working in public health and universities	(Nash et al., 2016) (Shilton et al., 2008) (Battel-Kirk and Barry, 2019c)
	Accreditation	Implementation of an accreditation system	(Battel-Kirk and Barry, 2019b) (Battel-Kirk and Barry, 2019c) (Shilton et al., 2008)
Career path	**Career counselling**	**Development of in-house career counselling programs (potential)	(Shilton et al., 2008)
	Job search (outside of an organization)	**Articulation of competencies and knowledge acquired and identification of deficiencies (potential)	(Shilton et al., 2008)

As mentioned earlier, some of the people interviewed said that they used frameworks to **build analytical frameworks** that served different purposes: establishing a diagnosis of managerial practices with a view to implementing a population-based approach (G1), defining sexual health promotion practices in order to help facilitate communities of practice (CS2), and adapting a list of the mental health competencies of various populations to Québec's health promotion context (CS4).

Although not usually mentioned in the scientific literature, frameworks can also be used to support advocacy. For example, the participants in this study reported that the framework on the surveillance of the health of populations has been used to support the argument aimed at convincing management and various actors in the network that it is relevant to invite the public to take part in surveillance activities: "I wanted to convince the actors in the network that public participation issues were not 'just one more task', but rather an essential aspect of the surveillance mission" (CS3). [Translation] The population health surveillance framework has also been used to support the argument that allocating more budgetary resources for developing collective competencies (Ibid.) is justified.

The other actual uses identified in the interviews were those usually cited in the literature. Three participants said that they had used frameworks **during human resource management** activities in order to develop job candidate (or competency) profiles **for the recruitment process**.

In the specific case of the INSPQ, none of the six frameworks under study has been used by its human resource department. However, the *Competency framework for scientific processes underlying the cross-cutting functions of the Institut national de santé publique du Québec* (Malai et al., 2012) has been used in conjunction with a more general framework on professional roles in order to develop a competency profile for recruiting professionals (scientific advisors, information officers, etc.). According to RH1, the fact that frameworks are not used by the various public health areas can be explained in part as follows: "the competency-based approach is still not used widely within the INSPQ and the competency profiles employed there are more general and are drawn up for each job type (or job category)." In addition, "the competency-based approach has been incorporated into interview templates and the selection process, but not in performance monitoring charts, training needs analysis or succession planning in due form" (RH1). [Translation]

Another type of framework use is related to the broad area of **strategic management**. In fact, the framework on the exercise of population-based responsibility was used with this in mind "due to the fact that the production of the framework in 2011 coincided with the **implementation** [of this approach] in the organization of Québec's health care network" (G1). [Translation] More precisely, the population-based responsibility framework was used to develop various training and knowledge transfer mechanisms (workshops, webinars, Web sites, adapted documents, etc.). In fact, it served as a "cornerstone" in the very implementation of the

population-based responsibility exercise, because it provided more precise definitions than those found in ministerial documents (G1). From that perspective, "the framework made a major contribution to **organizational change**." [Translation]

The **assessment of collective competencies** can be part of both strategic management and **competency development**. This last area **also includes the induction and supervision of interns** who, in some of the interviews, were said to have used the frameworks under study. Most of the other uses mentioned **concerned the development of training or training programs**. More precisely, the six frameworks were used to identify training needs, guide training design (particularly in environmental health and risk management) (M1), draw up learning objectives and develop a new competency framework for interventions in schools (M4). For example, in this last type of use, the new framework was intended to include various school-based interventions on smoking, healthy life habits and psychoactive substances, under the function of health promotion (M4). In addition, the frameworks were used, and continue to be used, as reference documents to support the development of a quality continuing professional development activity during the Annual Public Health Days (JASP).

Also, in the area of competency development, **self-assessment of competencies** and **identification of continuing professional development needs** are among the most frequent framework uses identified by the research of Bornioli et al. (2020). According to Burnett (2014), self-assessment and the preparation of continuing professional development plans are also among the main uses, followed by the development of training programs. However, **few of the people who took part in our interviews said that they or their colleagues used frameworks for individual self-assessment purposes**. That being said, reference was made to the use of the population-based responsibility framework by some managers in the health and social services network. In this regard, G1 said that "managers were required to submit a personal development plan . . . ; in addition, the relatively new language used in regard to the exercise of population-based responsibility invited managers to utilize the framework." [Translation] Lastly, the literature review also mentioned that frameworks were used to **develop university curricula** and **accreditation systems**.

At a more individual level, Shilton et al. (2008) said that frameworks could potentially be used to develop **in-house career counselling plans**, as well as for **finding employment**, particularly in the case of graduates.

5.3 Overall satisfaction and perceived impacts of the use of competency frameworks

This section addresses objective 3 of this advisory, that is, to "identify the perceived **impacts** of framework use." It sheds some light on the **overall** level of **satisfaction** with competency frameworks, as well as on some of their positive impacts. We have decided to deal with both of these aspects in the same section since an impact, be it experienced or observed (such as improved interpersonal communication), can contribute to satisfaction in regard to frameworks.

In Table 8, **bold** type is used once again to highlight the potentially greater weight associated with the factors cited by Battel-Kirk and Barry (2019a), given that they are based on the compilation of several studies.

5.3.1 Overall satisfaction

Based on our literature review, there have been few studies on the impacts of implementing a competency-based approach or using competency frameworks in public health (see Section 4.2). Nevertheless, we have gathered some data in this regard. First of all, we have noted that **overall satisfaction** with frameworks is quite positive in terms of their relevance and perceived usefulness (Battel-Kirk and Barry, 2019b, 2019c; Bornioli et al., 2020). That being said, since the response rate for the surveys studied was very low (in particular, in Battel-Kirk and Barry (2019b)), this conclusion must be put into perspective.[32]

According to the exploratory interviews, **overall satisfaction with the six frameworks targeted by this study** is very positive. It should be noted that the degree of satisfaction with other more specific aspects of the frameworks— pertaining to content or form, or strategies (including dissemination) — have been treated like factors that limit or facilitate framework use.

5.3.2 Perceived impacts

To examine the relevance and effectiveness of competency frameworks in public health, the next section presents the results obtained on **the perceived positive impacts of such frameworks**.[33] It should be noted that the impacts mentioned in the interviews correspond to the categories identified in the literature, except for those related to research activities and job mobility. Table 8 presents the impacts from an individual perspective (related to a person or interpersonal relations) and an organizational perspective (related to mechanisms put in place).

[32] The degree of overall satisfaction, taken on its own, is not very significant (Renaud, 2012). Therefore, it is recommended that satisfaction be measured, for example, with various components of the item being assessed (multi-items approach) (Ibid).

[33] The impacts are experienced or perceived rather than identified *a priori* as potential (i.e. anticipated results). Therefore, the list may seem incomplete.

Table 8 Perceived positive impacts of the use of competency frameworks in pubic health

Perspective	Perceived or experienced positive impacts	References
Individual	Strengthens/instills confidence in a person's competencies	(Burnett et al., 2014) (Stanford, 2016)
	Structures individual learning and individual continuing professional development and supports a person's career path	(Battel-Kirk et Barry, 2019b) (Burnett et al., 2014)
	Supports updating of specific knowledge	(Burnett et al., 2014)
	Facilitates targeted interventions with interns	(Gaboury et al., 2018)
	Clarifies a person's identity/role and contributes to accreditation	**(Battel-Kirk and Barry, 2019a)** (Burnett et al., 2014) (Stanford, 2016) (Battel-Kirk and Barry, 2019c)
	Creates a sense of professional community	(Battel-Kirk and Barry, 2019c)
Organizational	Improves interpersonal communication	(Gaboury et al., 2018) (Shilton et al., 2008) (Battel-Kirk and Barry, 2019c)
	Supports diagnostic assessment and data analysis	**CS2**
	Facilitates the identification of training and knowledge needs	**CS1, CS2**
	Provides guidelines for work organization	(Burnett et al., 2014)
	Promotes job mobility	**RH1, CS2, CS3**
	Facilitates the adoption of a holistic approach in health promotion	(Battel-Kirk and Barry, 2019c)

IMPACTS FROM AN INDIVIDUAL PERSPECTIVE

When considered from an "individual" perspective, the literature review and the interviews revealed that the use of frameworks **helps to strengthen/instill confidence in a person's competencies and to structure their learning** and more globally their career path. It also **supports the updating of specific knowledge** in situations where, for example, professionals are required to engage communities in a participatory approach

In addition, frameworks facilitate **interventions with interns** and guide their development plan during internships, while identifying the knowledge, soft skills and know-how to be developed using corresponding resources. The use of frameworks also helps to **clarify a person's professional identity as well as their accreditation by authorities** by providing, in context, an integrated and comprehensive picture of a public health area or function. For example, frameworks are useful for making a distinction between health promotion and the broader field of public health including, in particular, its biomedical dimension. Lastly, within a process that is more interactional, framework use fosters a **sense of professional community** because it provides shared professional identify guidelines.

IMPACTS FROM AN ORGANIZATIONAL PERSPECTIVE

When considered from an "organizational" perspective, the literature review and the interviews highlight a frequently mentioned impact, namely, **improved interpersonal communication**. The use of frameworks "helps to put into words realities that have always been there" (Participant 1 in Gaboury et al., 2018) and "to speak a common language" (Gaboury et al., 2018). Frameworks help to identify and describe informal knowledge, actual professional experiences, and practices: "when we talk about strategies . . . it's harder to make [only protocols and algorithms] tangible. People use strategies and develop skills, without taking the time to name them . . . and yet it's very useful to talk about this if actions are to be implemented." (CS2) [Translation]

Improved interpersonal communication is another frequent impact of analysis and assessment activities. For example, some of the frameworks under study have been used **to analyse data** as part of research projects aimed at doing a **diagnostic assessment** of the practices people use to help foster the emergence of a community of practice in the area of blood-borne and sexually transmitted infections (BBSI). Ultimately, this use has helped to promote discussion: "competency frameworks provide me with a framework for analysis and for reflecting on practices: a frame of reference that enables us to ask questions in the field . . . [and] to identify what is available to us in terms of practices and to promote discussion and cooperation" (CS2). [Translation]

CS2 explained this in more detail:

> Frameworks gave me a frame of reference for translating in concrete terms what it means to implement major guiding principles in the realm of BBSI in the field . . . . Had I not had access to frameworks, I wouldn't have known, or it would have taken me longer to understand, what was missing in terms of practices, competencies, professional situations . . . . In the end, this enabled me to determine what is possible in BBSI and, at the same time, to understand what people were saying to me, or what they weren't saying, and to understand why. For example, it enabled me to question my network: Why aren't you talking about mobilizing actors? Is this relevant in your context? Are you doing this? Who's doing it? What strategies are being used?(CS2).

Frameworks are also useful in the first stages of the knowledge transfer process: "Frameworks are very useful for **identifying knowledge needs** because they pinpoint the knowledge, know-how and soft skills deemed essential for practicing public health. They make it possible to identify knowledge needs based on specific skills that must be mastered (CS1)." [Translation]

Using frameworks in strategic management can also improve interpersonal communication. During the implementation of the population-based responsibility exercise in the health and social services network, the corresponding framework "was very useful in that it provided definitions that were more precise than those provided by the MSSS. It was used for developing a common vision, a common language; it served as an awareness tool, and even a tool for managing change" (G1). [Translation] Organizational change associated with an approach designed to achieve better integration between individuals and the population (population-based approach) echoes the scientific literature, which revealed that frameworks **facilitate the adoption of a holistic approach** in health promotion.

In human resource management and professional development, frameworks have been perceived as useful for **job mobility** since they shift the focus away from an assessment based solely on scientific knowledge: "We seek out candidates with competencies that are more difficult to acquire and then assist them in developing them in house [to make up for a lack of knowledge, if necessary]. I see this as having considerable added value" (RH1). [Translation] For example, a person who is not specialized in the psychosocial impacts of climate change, but who has know-how in research and knowledge in other social science issues can develop their transferable competencies in order to obtain a position as a researcher in that field. In regard more generally to the competency-based approach, RH1 said that it "attaches value to versatility." [Translation] In fact, this is one of the major characteristics that were mobilized during the first wave of the COVID-19 pandemic.

Also, in regard to job mobility, RH1 observed that managers who become involved in an assessment of personal competencies[34] in order to develop their competency profile, "realize the added value of a competency-based approach." [Translation] In fact, RH1 reported comments to the effect that participants were very satisfied that they could finally "find the words to describe their strengths as well as things they could improve" [Translation] in order to continue their development. Lastly, the literature review also mentioned that using a competency-based approach provided **guidelines for work organization**, in the sense that it fosters the assignment of different roles in a work team.

[34] Including, in particular, self-assessment of competencies, complex simulation exercises, and assessment by an industrial psychologist.

6 GENERAL DISCUSSION

On the basis of the results obtained, this chapter will discuss the main limitations of the study, as well as the main issues related to the use of competency frameworks and the competency-based approach in public health.

6.1 Main limitations of the advisory

This advisory has various limitations that must be noted here. First of all, the literature review showed that there are a large number of articles on the *development* of public health competency frameworks, but there has been very little research on their *use*. The lack of articles on this subject echoes the results of the scoping review by Battel-Kirk and Barry (2019a), which reported very little empirical research on the implementation, use and impact of competency frameworks— and more generally the competency-based approach—in health promotion. These findings also apply to the public health field in general (see recent research by Bornioli et al. (2020)), and to health education (Battel-Kirk and Barry, 2019b).

Very little data have been found on why this situation exists. Bornioli et al. (2020) propose the following hypotheses: (1) funding for this type of assessment is not prioritized; and (2) certain methodological challenges exist, including target audience sampling problems. On the one hand, competency framework target audiences include a wide range of actors and, on the other hand, the presence of public health mandates is not always explicit in job titles (Ibid.).

While the literature on the use of competency frameworks is limited, it is also very diversified in terms of subject matter, areas covered, geographical locations, methodologies, target audiences, and so forth. Although this diversity allows the question to be approached from various angles, it makes it impossible to generalize the results and difficult to identify the relative weight of the different factors.[35] In addition, given the number of contexts studied, the results also entail transferability issues. Therefore, the discussion that follows the presentation of our results aims to make it easier to identify aspects that can transferred to the Québec context.

Furthermore, because most of the people who took part in the exploratory interviews were from the same organization, the results are biased to a large extent. What is more, apart from labour union representatives and the person working in human resources, most of the participants had been asked to help develop the competency frameworks under study. Their familiarity with this type of knowledge and the documents themselves was an essential inclusion criterion for obtaining more results. However, this approach may have limited the critical distance required

[35] For example, research on the biomedical dimension of an area targeted by a framework, involving more technical and thus more measurable competencies (Tourmen, 2016), does not involve the same stakes as research on more cross-cutting competencies in health promotion. The university education sector is also a more favourable environment for using competency frameworks since, unlike professional settings, it is required to develop curricula (Battel-Kirk and Barry, 2019b, p. 9).

with the frameworks under study and their use. Furthermore, the exploratory interviews did not allow the question of the implementation of the competency-based approach in the participant's work context to be studied in greater depth. This question could be researched later on (e.g. through a survey in the health and social services network, interviews with key informants, benchmarking). Lastly, as mentioned in the section on the background, the projected survey of public health professionals and managers at the MSSS, the INSPQ and the public health departments could not be conducted because of the pandemic.

Despite these limitations, once the documentary analysis had been triangulated, enriched and contextualized by an analysis of the exploratory interviews, it highlighted **several factors related to the use of frameworks**. These results could guide decisions aimed at strengthening framework use in the Québec context. Different **types of use** have also been identified, making it possible to verify, detail and enrich the typology developed by Brahimi (2011). Lastly, the analysis also revealed several perceived **positive impacts** arising from the use of frameworks and thus reaffirmed the relevance of these tools while revealing potential uses for Québec's public health network. These results as a whole are likely to contribute to the development of continuing education and other means of transfer for strengthening framework use.

6.2 Discussion of the stakes involved in the use of frameworks and the competency-based approach

Since this advisory is based on the **premise that the use of frameworks** in Québec's public health network **is suboptimal**, we wanted to examine this question during the interviews. Even though the results are fragmentary, they coincide with this premise, because all of the participants deemed that frameworks were **not used very often** at the INSPQ or in the rest of the network. However, we have to say that some tools or mechanisms, such as continuing education, have been developed using frameworks and they are still relevant today. This should be taken into account if we wish to assess the impact of frameworks, and not only their direct use. That being said, it appears that the use of frameworks should be strengthened on account of their potential for framework development over the long term.

Several factors can explain the under-utilization of frameworks. Apart from the fact that it is essential to roll out knowledge transfer plans (and to disseminate them sufficiently), this study has revealed the **importance of the degree to which a competency-based approach is implemented in management processes**. We will now revisit certain key findings from the literature review, together with ideas derived from additional reading on the competency-based approach in the workplace.

First of all, it can be seen that **the use of frameworks and the implementation of a competency-based approach have an impact on each other** in the sense that organizations where a competency-based approach is quite well integrated into management practices create

a climate conducive to framework use. On the other hand, rolling out a framework transfer plan can be one of several means or strategies for promoting the implementation of a competency-based approach. However, it goes without saying that there can be a certain amount of resistance to integrating such an approach.

In that regard, research by Burnett (2014) has raised issues related to labour relations. As we saw earlier, his results showed that **encouragement on the part of managers** can foster framework use. At the same time, he noted that when the decision to implement a framework is made *a priori* from above (i.e. using a *top-down* approach), the people who have to put it into practice are less sure of its benefits. On the other hand, **most of the respondents who made "optimal" use of frameworks said that this was a personal decision** (i.e. a decision made using a *bottom-up* approach). This finding demonstrates the importance of ensuring that frameworks are adopted simultaneously and in a coordinated manner by managers and employees.

The adoption of frameworks raises the broader question of the stakes related to how employees **receive the competency-based approach** and, in particular, competency assessments (self-assessment, evaluation by employers, joint evaluation, etc.). Work by Tourmen (2016) shows that the assessment of professional competencies can be received in an ambivalent manner, ranging between **a desire for recognition and a fear of sanctions**.

On the one hand, most workers want to be evaluated because this "provides them with an opportunity to obtain feedback on the usefulness and quality of what they give of themselves" (Dejours, 2003, p. 49, cited in Tourmen, 2016). [Translation] At the same time, evaluations can be a potential source of tension and stress, since they are inevitably cross-cut by **power relations**[36] (Whitehead et al., 2013). They are especially tricky because they enter into contact with the very **identity** of a person:"directing attention toward competencies involves entering into another person's territory, activities and work" (Tourmen, 2016). [Translation] Lastly, since the purpose of competencies is often not clearly explained (Batal and Oudet, 2013; Tourmen, 2016), except in regard to the contribution they make to a certain market logic (Jonnaert et al., 2004) or the role they play in boosting the productivity of people by making them compete with one another and with other organizations (Dardot and Laval, 2009), there is a real risk that **the person being evaluated will feel used**. In other words, no consideration would be given to that person's aspirations or the potential of an organization to contribute to the "common good."

[36] As seen earlier, frameworks can be a "political tool" for delimiting professional and disciplinary territories; in this case, frameworks are central to relationships of influence. Furthermore, the accumulation and recognition of competencies in a field of practice can help to establish the authority of a person or group within an organization (Wright, 2015).

These undesired effects are also associated with the **difficulties inherent in competency assessment**. "Assessing competencies involves assessing something that is in a state of flux and is hard to access." (Tourmen, 2016). [Translation] First of all, if we rely solely on competency frameworks, which are fairly general and not very contextualized, we run the risk of **not taking actual work in all of its complexity into account**, particularly in regard to the conditions in which professional work is performed. This could exacerbate the accountability of individuals "when it comes to competency requirements" (Batal and Oudet, 2013; Tourmen, 2016). Such over-accountability could foster the emergence of feelings of guilt about situations over which people have no control (Tourmen, 2016), which could in turn entail mental health risks (Curran and Hill, 2019).

Secondly, it is clear that several aspects of competencies are **hard to measure** — particularly soft skills and, more broadly, abstract competencies, such as: "facilitating empowerment," motivating people and encouraging team work (Meresman et al., 2006). As noted by Tourmen (2016), "evaluators might be tempted to focus only on what's visible, measurable, quantifiable or procedural." [Translation] On the other hand, making an effort to deal with the complexity of competencies could **increase the number of indicators** and lead to what De Gaulejac (cited in Martuccelli, 2010) calls "quantophrénie," (quantrophrenia) "a managerial disease where all aspects of social life are always translated into mathematical signs." [Translation]

What should be done in the face of so many challenges? Despite all the debate in the literature, the relevance of the competency-based approach and frameworks is increasingly recognized, as shown by this advisory. Apparently, it is not so much the concept of competency that is problematic, but rather *its use and the context* in which it is used. The following courses of action provide guidelines for using it appropriately.

7 COURSES OF ACTION

The results of this study help to strengthen the relevance of the competency-based approach (taking into account the risks involved) and, more specifically, of competency frameworks. They also help to formulate courses of action for optimizing the use of the six competency frameworks under study. Some of these courses of action are similar to guidelines for reflection, although the implications for action are usually suggested. Most of these courses of action are preliminary because our study could not be completed with data collected in the public health network due to the COVID-19 pandemic. The first section (7.1) presents guidelines for taking into account some of the risks associated with the public health competency-based approach. The other sections propose courses of action related to structural and organizational strategies (7.2), the development of tools to strengthen framework use (7.3), adjustments to existing frameworks (7.4), and the potential production of new frameworks (7.5). We also propose to carry out an additional study involving the collection of empirical data derived from Québec's public health network (7.6).

7.1 Take into account certain guidelines for the competency-based approach

As mentioned earlier, the objectives-based approach, which is relevant in Taylorist work organization, is centred on know-how associated with prescribed, fairly procedural operations. The competency-based approach is more relevant in so-called "open" work organization since it invites initiative and involves taking action in complex and sometimes unexpected situations (Le Boterf, 2002, in Brahimi, 2011), as is frequently the case in public health in Québec. Competency frameworks are an appropriate tool for rolling out this type of approach and, ultimately, for developing competencies. That being said, implementing a competency-based approach is complex and involves certain risks; the guidelines presented here are designed to reduce those risks.

7.1.1 Recognize that the field of public health is dynamic and evolves over time

As we have already seen, the literature review by Battel-Kirk and Barry (2019a) and the research by Stanford (2016) both underscore the risk that a competency-based approach can curtail creativity and even isolate various public health areas or functions (particularly health promotion, in Battel-Kirk and Barry, 2019a). Therefore, **the dynamic and evolving nature of the area of public health could be underscored** when deemed appropriate (e.g. in documents that explain frameworks, facilitating tools, during training sessions, etc.). In addition, as recommended by Mendoza et al. (1994, cited in Shilton, 2001), determining periodically whether frameworks need to be updated would be a good reflex to develop. Based on the case of health promotion, Mendoza says that each framework must be dynamic, like the field itself.

7.1.2 Recognize the difficulty of measuring competencies

This involves recognizing that **certain aspects of competencies** (like soft skills) **and certain competencies, in particular** (namely, those that are more abstract and complex (Mendoza et al., 1994, cited in Shilton, 2001) **are impossible or very hard to measure** with the various mechanisms and tools dealing with competency assessment. For example, "facilitating *empowerment*" or "encouraging teamwork" are competencies that are difficult to measure (Meresman et al., 2006), but they are no less important. Therefore, in assessing competencies, it is important to avoid concentrating solely on what can be measured more easily. This can have several implications for integrating a competency-based approach in management processes. The following courses of action refer to this.

7.1.3 Define the goals of competency assessment processes

In view of the major difficulties associated with measuring competencies, as well as the perception issues and the risk of undesirable impacts mentioned in the general discussion, **the assessment process should be seen as an action aimed at individual and collective professional development**. It could then aim to achieve, to some extent, the **fulfilment of individuals and teams**, together with the development of organizations. In addition, collective objectives in public health can be associated with the goal of improving the health and well-being of populations. According to Jonnaert et al. (2004), these clarifications and what they mean for adopting a competency-based approach would prevent people from feeling that they have been used as a tool for attaining a goal reduced to market-driven considerations.

7.1.4 Base individual assessments on the learning process

The preceding recommendation focuses on the **goals** of competency assessments, whereas here, we will direct our attention to **the object** of assessments. To prevent assessments from being perceived as criticisms, Le Boterf (1998) has proposed that we move away from doing assessments based on controlling **the gap between a framework and the competencies measured in an individual**, and consider doing them based on the **process** itself. Assessments would then be at the **service of learning** so that we would know better how to act. They should then provide an opportunity for self-reflection "What impacts did I want to achieve? Did I achieve them? What did I do to obtain these results? Why did I proceed in this way? For what reasons were these actual effects achieved?" (Ibid.). [Translation] That being said, according to Cotter (2015), the self-assessment process would benefit from involving another person in order to reduce the biases associated with too much subjectivity. As recommended by Le Boterf (1998): "Dialogue and intersubjective confrontation must be part of the assessment mechanism."[37] [Translation] Lastly, to focus attention on the conditions in which work and

[37] Obviously, there are situations where this perspective does not apply (e.g. during the hiring process).

learning are performed, Tourmen (2016) reported that several authors stress the **need to focus assessments on work rather than individuals**.

7.1.5 Design and present frameworks as sets of guidelines

As reported in the literature and in the practices described in the interviews, when frameworks are being used, they should be **adapted and contextualized in relation to the person concerned, their role, specific area of activity, work context**, and so forth. Frameworks should thus be presented and used as *guidelines* rather than as a list of precise criteria that must be met. According to Le Boterf (2008, cited in Briand-Lamarche, 2017), a prescriptive rationale may be appropriate when it comes to carrying out simple and repetitive tasks, but not in cases where autonomy and professional innovation are sought. In short, the focus must be on the **guiding value of frameworks rather than on their normative value**.

7.2 Implement structural and organizational strategies promoting the adoption and use of frameworks

This section is directed more toward action at structural and organizational levels. As underscored by the interviews in this study, competency assessments cannot be performed entirely outside the **conditions required for learning**. Organizations must make available **various training and learning mechanisms**, as well as enough **time** and **resources** for training activities. Ideally, such conditions and mechanisms should be part of a more general frame of reference, namely, the implementation of a competency-based approach / a learning organization. Therefore, the following courses of action comprise integrated strategies (including transfer plans), as well as structural and organizational strategies.

7.2.1 Develop a transfer plan with relevant partners

The interviews often referred to the lack of widespread dissemination as being a factor that interferes with knowledge about and the adoption of frameworks. Therefore, it is clear that an **appropriate dissemination strategy must be envisaged** if we want to strengthen framework use. However, as mentioned previously, the development of an "organizational culture" favourable to the use of frameworks seems to go hand in hand with the implementation of **a learning organization approach**. For RH1, learning organizations represent a profound organizational change: "sometimes it's easy to adopt a philosophy, but you have to allow for enough time, have a roll-out strategy and be prepared. Applying the learning organization principle requires humility, decentralization and, in this case, I'm thinking about the INSPQ and the network." [Translation]

Having an integrated and effective strategy for strengthening framework use would require involving relevant partners, including the human resource departments and labour unions of Québec's public health network, in the preparation of a transfer plan. That way, there would be

more consistent alignment of the implementation of a competency-based approach and perhaps learning organizations with available resources and anticipated barriers and facilitating factors. Strategic reflection would be required. Among other things, the principles of such an approach would have to be examined critically in light of the risks associated with the implementation of a competency-based approach. Lastly, the interviews highlighted the importance of designating a person providing coaching on framework use.

7.2.2 Implement strategies related to structural mechanisms

The strategies proposed here consist of actions that might be taken on the structural organizational factors raised in this study. They involve reflecting on / seeking input from people and groups on the usefulness of the following:

- Develop **tools to facilitate the alignment of** the six frameworks under study with the requirements of the various professional orders (psychology, social work, urban planning, etc.).
- Explore the alignment of the competency-based approach, frameworks and **quality assurance** processes.

7.2.3 Implement strategies related to organizational mechanisms

Once again, the strategies proposed here may prompt reflection by the authorities concerned. They deal not only with framework use, but also and more generally, with the implementation of a competency-based approach/learning organizations:

- Explore, with the different teams working in institutional public health in Québec and in collaboration with human resource departments and labour unions, the possibility of setting up **pilot projects** on **the implementation of a competency-based approach / learning organizations** and / or **an approach or organizations based more specifically on framework use**;
- And/or conduct **case studies** on current efforts to implement a competency-based approach/learning organizations and/or the use of frameworks;
- Explore the strategy of **doing an in-depth assessment of the individual competencies of managers** to encourage them to adhere to a competency-based approach;[38]
- Offer **activities** that present frameworks, potential types of framework use and the different ways they can be put into practice, based on various target audiences.

[38] In regard to the comments made by RH1 concerning managers' satisfaction with this process, which meets some of their needs and enables them to better understand the advantages of the concept of competence. It can include, in particular, self-assessment of competencies, complex simulation exercises, and assessment by an industrial psychologist.

7.3 Develop a digital support and additional tools to facilitate framework use

The strategies proposed in this section target the development of tools (Web and additional documents):

- Develop a **Web interface** to simplify the ergonomics of competency tables – using accordions,[39] for example;
- Determine the possibility and relevance of developing **Web tools that facilitate competency self-assessment** (e.g. a form), differentiated according to **professional roles**, with or without **competency levels;**
- Determine the relevance of developing tools for adapting frameworks to specific contexts, particularly with regard to **First Nations**.

7.4 Make certain adjustments to existing competency frameworks in public health

This section concerns more specifically adjustments for the eventual updating of existing frameworks, in accordance with the objectives of the project.

All of the results of the exploratory interviews **confirm that the current frameworks are useful and relevant and have an appropriate degree of precision**. Nevertheless, given the evolving nature of public health, we propose the following course of action:

- Include in appropriate planning documents regular verification of frameworks' updating needs with the actors most directly concerned.

Two other courses of action emerged from the analysis in regard to adjustments to existing frameworks:

- Assess the feasibility of **simplifying the language** of frameworks;
- **"Update external resources"**; the frameworks suggest that plans, guides and various reference documents be consulted. Some of these documents have been republished. They would have to be updated.

[39] "The accordion is a graphical control element comprising a vertically stacked list of items, such as labels or thumbnails. Each item can be 'expanded' or 'collapsed' to reveal the content associated with that item." Accordion (GUI). (September 8, 2021). In https://en.wikipedia.org/wiki/Accordion_(GUI)

7.5 Assess the relevance and feasibility of developing a competency framework for public health action as a whole

In accordance with the objectives of this project, we will now provide specific courses of action pertaining to the production of new frameworks or to major changes to an existing framework:

- Explore the idea of **developing a general public health framework**. Determine its added value or alignment with other existing frameworks in that area.[40]
- Identify, within a general public health framework, a set of competencies related to the consideration of **social inequities in health (SIH).**
- Identify, within a general public health framework, a set of competencies related to the **analysis of public policies**.

7.6 Build knowledge on the use of competency frameworks in the public health network

As mentioned in this advisory, the interviews conducted for the most part with the INSPQ are clearly insufficient for answering in an effective manner our questions concerning the factors associated with the use of frameworks, the degree and types of framework use encountered in Québec's public health network, and the impacts of frameworks.

That being said, the results of the interviews and the literature review can be used to build data collection tools, depending on the methodology used. The results would no doubt be useful for developing, for example, a **questionnaire** that could be addressed to all members of the public health network and, eventually, for preparing an interview guide for facilitating **focus groups** covering the various fields concerned by the frameworks and professional roles.

[40] See, in particular, the framework developed by the Public Health Agency of Canada.

8 CONCLUSION

This advisory is based on a narrative literature review, including systematic strategies, and exploratory interviews (n = 13). The review revealed a lack of empirical research on the implementation, use and impacts of competency frameworks in public health, and thus highlighted the need for more research of this type. However, despite the fairly limited amount of research that met our study's inclusion criteria, the results of the literature review and the exploratory interviews provide a better understanding of the barriers and facilitating factors associated with framework use at structural and organizational levels, as well as with their content, form and implementation. They have also made it possible to describe the different types of framework use and their perceived and experienced impacts. As a whole, these results have helped to strengthen the relevance of public health frameworks and will definitely be useful for reflecting on and designing mechanisms to promote framework use.

This advisory has also raised a number of issues associated with the use of frameworks, and more generally, the competency-based approach. First of all, there are the challenges associated with attempting to coordinate the field of public health and the competency-based approach, both of which are fundamentally complex, cross-cutting and interdisciplinary. This theoretical issue is reflected in practice and raises problems associated with the competency assessment process, potential labour relations issues and, more precisely, the reception of the competency assessment process by staff.

However, several "beacons" can be used to address these issues, in particular by reformulating frameworks as guidelines for continuing professional development rather than viewing them from an exclusively prescriptive perspective. More concrete courses of action have also been proposed to strengthen framework use in Québec's public health network, starting with the development of an appropriate transfer plan.

In any event, the public health network would no doubt benefit from adopting more widely a competency-based approach and a learning organization approach. Even though mechanisms to foster the implementation of such an approach can require extensive reorganization (e.g. more employee participation in decision-making in order to promote networking), they can make organizations more agile and work teams more motivated, while fostering creativity and strengthening employees' sense of belonging.

9 REFERENCES

COMPETENCY FRAMEWORKS UNDER STUDY

Comité de pilotage du Projet d'implantation du cadre d'orientation en surveillance. (2010). *Profil des compétences pour l'exercice de la surveillance continue de l'état de santé de la population du Québec.* Québec : Direction des communications du ministère de la Santé et des Services sociaux du Québec.

Initiative sur le partage des connaissances et le développement des compétences. (2012). *Référentiel de compétences pour relever le défi de l'exercice de la responsabilité populationnelle à l'intention des CSSS et de leurs partenaires*. Montréal : Institut national de santé publique du Québec.

Laliberté, C. et Brahimi, C. (2012). *Environmental Health Competency Framework for Public Health in Québec*. Montréal: Institut national de santé publique du Québec.

Fontaine, G., Brahimi, C., Fortier, M. (2013). *Occupational Health Competency Framework for Public Health in Québec*. Montréal: Institut national de santé publique du Québec.

Martin, C., Brahimi, C., Farley, C. (2014). *Prévention et promotion de la santé pour le réseau de la santé et des services sociaux du Québec : Référentiel de compétences*. Montréal : Institut national de santé publique du Québec.

Archetto, M-J., Brahimi, C. et Morin D. (2018). *Référentiel de compétences en maladies infectieuses pour la santé publique du Québec.* Montréal : Institut national de santé publique du Québec.

OTHER COMPETENCY FRAMEWORKS CITED

Malai, D., Brahimi, C., Farley, C. et Gravel, F. (2012). *Competency framework for scientific processes underlying the cross-cutting functions of the Institut national de santé publique du Québec*. Montréal : Institut national de santé publique du Québec.

CORE ARTICLES – LITERATURE REVIEW

Battel-Kirk, B. et Barry, M. M. (2019a). Has the Development of Health Promotion Competencies Made a Difference ? A Scoping Review of the Literature. *Health Education & Behavior: The Official Publication Of The Society For Public Health Education*, *46*(5), 824-842. mdc.

Battel-Kirk, B. et Barry, M. M. (2019b). Evaluating progress in the uptake and impact of Health Promotion competencies in Europe. *Health Promotion International*, daz068. https://doi.org/10.1093/heapro/daz068

Battel-Kirk, B. et Barry, M. M. (2019c). Implementation of Health Promotion Competencies in Ireland and Italy—A Case Study. *International Journal of Environmental Research and Public Health*, *16*(24), 4992. https://doi.org/10.3390/ijerph16244992

Bornioli, A., Evans, D. et Cotter, C. (2020). Evaluation of the UK Public Health Skills and Knowledge Framework (PHSKF) : Implications for international competency frameworks. *BMC Public Health*, *20*(1), 956. https://doi.org/10.1186/s12889-020-09024-6

Burnett, E., Curran, E., Loveday, H. P., Kiernan, M. A., et Tannahill, M. (2014). The outcome competency framework for practitioners in infection prevention and control : Use of the outcome logic model for evaluation. *Journal Of Infection Prevention*, *15*(1), 14-21. mdc. https://doi.org/10.1177/1757177413512387

Cotter, C. (2015). *Review of the Public Health Skills and Knowledge Framework (PHSKF) Report on a series of consultations. Spring 2015*. London : Public Health England.

Nash, R. E., Chalmers, L., Stupans, I., et Brown, N. (2016). Knowledge, use and perceived relevance of a profession's Competency Standards; implications for Pharmacy Education. *The International Journal Of Pharmacy Practice*, *24*(6), 390-402. mdc. https://doi.org/10.1111/ijpp.12267

Stanford, P. E. (2016). How can a competency framework for advanced practice support care? *British Journal Of Nursing (Mark Allen Publishing)*, *25*(20), 1117-1122. mdc.

ARTICLES SELECTED FOR ANALYSIS, BUT NOT CORE ONES LITERATURE REVIEW

Battel-Kirk, B., Barry, M. M., Battel-Kirk, B. et Barry, M. M. (2008). *Testing the feasibility of implementing a pan European framework for health promotion accreditation*. IUHPE Research Report Series.

Gaboury, I., Ouellet, K., Xhignesse, M., et St-Onge, C. (2018). Strategies identified by program directors to improve adoption of the CanMEDS framework. *Canadian Medical Education Journal*, *9*(4), e26-e34. mdc.

Gallardo, C., Martinez, A., Zaagsma, M. et García de et Sola, S. (2012). *Testing the implementation of the CompHP Pan European Accreditation Framework in practice settings*. IUHPE Paris, France.

Shickle, D., Stroud, L., Day, M. et Smith, K. (2019). The applicability of the UK Public Health Skills and Knowledge Framework to the practitioner workforce : Lessons for competency framework development. *Journal of Public Health*, *41*(1), e109-e117. her. https://doi.org/10.1093/pubmed/fdy097

Shilton, T., Howat, P., James, R., Hutchins, C., et Burke, L. (2008). Potential uses of health promotion competencies. *Health Promotion Journal of Australia*, *19*(3), 184-188. https://doi.org/10.1071/HE08184

ADDITIONAL PUBLICATIONS – CONCEPT OF COMPETENCY

Batal, C., et Oudet, S. F. (2013). Compétences, un folk concept en difficulté ? *Savoirs*, *n° 33*(3), 39-60.

Brahimi, C., Farley, C. et Joubert, P. (2011). *The Competency-based Approach A Lever for Changing Public Health Practices in Québec*. Montréal: Institut national de santé publique du Québec.

Briand-Lamarche, M. (2017). *Évaluation du développement et de la mise en oeuvre d'un référentiel de compétences pour favoriser l'utilisation des connaissances issues de la recherche en éducation*. [thèse de doctorat, Université de Montréal]. Papyrus. https://papyrus.bib.umontreal.ca/xmlui/handle/1866/18486

Bruno, I., Clément, P., et Laval, C. (2010). *La grande mutation : Néolibéralisme et éducation en Europe*. Paris : Syllepse — Institut de recherches de la Fédération syndicale unitaire (FSU).

Carignan, L., et Fourdrignier, M. (2013). *Pratiques réflexives et référentiels de compétences dans les formations sociales*. Québec : PUQ.

Clément, P., Dreux, G., Laval, C., et Vergne, F. (2011). *La nouvelle école capitaliste*. Paris : La Découverte. http://www.cairn.info/la-nouvelle-ecole-capitaliste--9782707169488.htm

Dierckx, C. (2013). Raison instrumentale, réflexivité et horizons de sens : Une problématisation philosophique des référentiels du social. Dans L. Carignan et M. Fourdrignier (dir.), *Pratiques réflexives et référentiels de compétences dans les formations sociales.* Québec : PUQ.

Hirtt, N. (2009). L'approche par compétences : Une mystification pédagogique. *L'école démocratique*, *39*(1).

Jonnaert, P., Barrette, J., Boufrahi, S., et Masciotra, D. (2004). Contribution critique au développement des programmes d'études : Compétences, constructivisme et interdisciplinarité. *Revue des sciences de l'éducation*, *30*(3), 667-696. https://doi.org/10.7202/012087ar

Le Boterf, G. (1998). Évaluer les compétences. Quels jugements ? Quels critères ? Quelles instances ? *Education permanente*, *135*(2), 143-151.

Legendre, R. (2005). *Dictionnaire de l'éducation* (3e éd.). Montréal : Guérin.

Mendoza, J., Parker, E., et Fresta, J. (1994). If the suit doesn't fit why wear it? Competency-based training and health promotion. *Health Promotion Journal of Australia*, *4*(2), 9-14.

Meresman, S., Colomer, C., Barry, M., Davies, J. K., Lindstrom, B., Loureiro, I., et Mittelmark, M. (2006). A review of professional competencies in health promotion: European perspectives: On behalf of EUMAHP Consortium. *International Journal of Health Promotion and Education*, *44*(3), 113-120. https://doi.org/10.1080/14635240.2006.10708081

Molina, Y. (2013). Le référentiel professionnel, un outil politique pour la professionnalisation. Dans L. Carignan et M. Fourdrignier (dir.), *Pratiques réflexives et référentiels de compétences dans les formations sociales*. Québec : PUQ, p. 67-81.

Nguyen, D.-Q., et Blais, J.-G. (2007). Approche par objectifs ou approche par compétences ? Repères conceptuels et implications pour les activités d'enseignement, d'apprentissage et d'évaluation au cours de la formation clinique. *Pédagogie médicale*, *8*(4), 232-251.

OMS. (2016). *Global strategy on human resources for health : Workforce 2030*. https://www.who.int/hrh/resources/globstrathrh-2030/en/

Oudet, S. F. (2012). Chapitre 14. Favoriser un environnement « capacitant » dans les organisations. Dans Bourgeois, E. et Durand, M. (dor.) *Former par le travail.* Paris : PUF. https://www.cairn.info/apprendre-au-travail--9782130588948-page-201.htm

Parent, A.-A., O'Neill, M., Roy, B. et Simard, P. (2014). Entre santé publique et organisation communautaire : Points de convergence et de divergence autour du développement des communautés au Québec. *Revue de l'Université de Moncton*, *43*(1-2), 67-90. https://doi.org/10.7202/1023978ar

Postiaux, N., Bouillard P., et Romainville, M. « Référentiels de compétences à l'université. Usages, rôles et limites ». Recherche et formation, no 64 (1 juillet 2010): 15-30. https://doi.org/10.4000/rechercheformation.185

Tardif, J. (2003). Développer un programme par compétences : De l'intention à la mise en oeuvre. *Pédagogie collégiale*, *16*(3), 36-44.

Tourmen, C. (2016). L'évaluation des compétences professionnelles : Apports croisés de la littérature en évaluation, en éducation et en psychologie du travail. *Mesure et évaluation en éducation*, *38*(2), 111-144. https://doi.org/10.7202/1036765ar

Turcotte, D. (2013). Référentiels de compétences et formation en travail social au Québec. Dans L. Carignan et M. Fourdrignier (dir.), *Pratiques réflexives et référentiels de compétences dans les formations sociales*. Québec : PUQ. p. 117-135.

Vienneau, R. (2011). *Apprentissage et enseignement : Théories et pratiques*. Ottawa : Gaëtan Morin.

Weinstock, D. (2018). Les déterminants sociaux de la santé : Un défi pour l'éthique de la décision dans le domaine des politiques de santé. *Éthique publique. Revue internationale d'éthique sociétale et gouvernementale*, *vol. 20, n° 2*. https://doi.org/10.4000/ethiquepublique.4173

Whitehead, C. R., Austin, Z., et Hodges, B. D. (2013). Continuing the competency debate : Reflections on definitions and discourses. *Advances in Health Sciences Education*, *18*(1), 123-127. psyh. https://doi.org/10.1007/s10459-012-9407-7

PUBLICATIONS – THEORETICAL CONTEXT

Campeau, Julie (2019). *Les facteurs qui influencent l'implantation des leviers d'action d'une organisation apprenante dans une PME saisonnière de l'industrie touristique*. Mémoire. Montréal (Québec, Canada), Université du Québec à Montréal, Maîtrise en éducation

Centre de transfert pour la réussite éducative du Québec (CTREQ). (2017). Lexique sur le transfert de connaissances en éducation, CTREQ, 51 p. http://www.ctreq.qc.ca/realisation/lexique-transfert-de-connaissances-education/

Curran, T., et Hill, A. P. (2019). Perfectionism is increasing over time : A meta-analysis of birth cohort differences from 1989 to 2016. *Psychological Bulletin*, *145*(4), 410-429. https://doi.org/10.1037/bul0000138

Boudon, R., et Bourricaud, F. (2011). *Dictionnaire critique de la sociologie*. Paris : PUF.

Beaudet, C. (2001). Clarté, lisibilité, intelligibilité des textes: un état de la question et une proposition pédagogique. *Recherches en rédaction professionnelle, 1*(1), 1-19.

Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., et Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation science*, *4*(1), 50.

Gagnon, F., Bergeron, P., et Fortin, J.-P. (1999). Le champ contemporain de la santé publique. Dans C. Bégin, P.-G. Forest, et V. Lemieux (Éds.), *Le système de santé québécois. Un modèle en transformation* (p. 229-258). Montréal : Presses de l'Université de Montréal. http://books.openedition.org/pum/12186

Dardot, P., et Laval, C. (2009). *La nouvelle raison du monde : Essai sur la société néolibérale*. Paris : La Découverte.

Fassin, D. (2008). Faire de la santé publique. 2e édition révisée. *Rennes (France): EHESP*.

Fournier, P. (2003). L'art et la science de la santé publique. *Environnement et santé publique: fondements et pratiques*, 39-57.

Gervais, M.-J., Souffez, K., et Ziam, S. (2016). *Quel impact avons-nous ? Vers l'élaboration d'un cadre pour rendre visibles les retombées du transfert des connaissances*. *1*, 21.

Lemire, N., Laurendeau, M.-C., Souffez, K., Institut national de santé publique du Québec, et Direction recherche, formation et développement. (2009). *Animer un processus de transfert des connaissances : Bilan des connaissances et outil d'animation*. Direction de la recherche, formation et développement, Institut national de santé publique Québec. https://www.deslibris.ca/ID/222221

Martuccelli, D. (2010). Critique de la philosophie de l'évaluation. *Cahiers internationaux de sociologie*, *n° 128-129*(1), 27-52.

Massé, R. (2007). Les sciences sociales au défi de la santé publique. *Sciences sociales et santé*, *Vol. 25*(1), 5-23.

Morrison, V. (2013). *Les problèmes vicieux et les politiques publiques*. Centre de collaboration nationale sur les politiques publiques et la santé. https://www.ccnpps.ca/117/Publications.ccnpps?id_article=926

Renaud, J.-S. (2012). *La mesure de la satisfaction des clients : Effet de la polarité, du nombre de points et de l'étiquetage de l'échelle de réponse sur la distribution des réponses et sur les qualités psychométriques*. [Thèse de doctorat, Université Laval]. Corpus.

Rosa, H. (2017). *Aliénation et accélération : Vers une théorie critique de la modernité tardive*. Paris : La découverte.

Wright, E. O. (2015). *Understanding class*. New York: Verso Books.

METHODOLOGICAL PUBLICATIONS

Ali, A., et Faruquie, D. S. (2015). Effectiveness of Social and Cultural Sustainability Practices in Built Environment : A Quasi-Systematic Review. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, *9*(12), 4298–4305.

Booth, A., Papaioannou, D., et Sutton, A. (2012). *Systematic approaches to a successful literature review*. Thousand Oaks : SAGE publications.

Boutin, G. (1997). L'entretien de recherche qualitatif. Sainte-Foy : Édition Presses de l'Université du Québec.

Creswell, J. W. (2013). *Qualitative inquiry and research design : Choosing among five approaches* Thousand Oaks : SAGE publications.

Dixon-Woods, M., Cavers, D., Agarwal, S., Annandale, E., Arthur, A., Harvey, J., Hsu, R., Katbamna, S., Olsen, R., Smith, L., Riley, R., et Sutton, A. J. (2006). Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups. *BMC Medical Research Methodology*, *6*(1). https://doi.org/10.1186/1471-2288-6-35

Framarin, A., et Déry, V. (à paraître). *Les revues narratives – Fondements scientifiques pour soutenir l'établissement de repères institutionnels*. Institut national de santé publique du Québec.

Gough, D., Thomas, J., et Oliver, S. (2012). Clarifying differences between review designs and methods. *Systematic reviews*, *1*(1), 28.

Hong, Q. N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., et Nicolau, B. (2018). Mixed methods appraisal tool (MMAT), version 2018. *Registration of copyright*, *1148552*.

Paillé, P., et Mucchielli, A. (2016). *L'analyse qualitative en sciences humaines et sociales-4e éd.* Armand Colin.

Robert, O., et Déry, V. (2020). *Cadre de référence sur la révision par les pairs des publications scientifiques de l'Institut national de santé publique du Québec*. http://www.deslibris.ca/ID/10105464

Whittemore, R. (2007). Rigour in Integrative Reviews. Dans C. Webb et B. Roe, *Reviewing Research Evidence for Nursing Practice : Systematic Reviews*. Wiley-Blackwell. p. 149-156.

APPENDIX 1 ADDITIONAL INFORMATION ON THE LITERATURE REVIEW METHODOLOGY

Additional information on the literature review methodology

Table 9 Criteria for assessing the feasibility and "desirability" of conducting a systematic review

A systematic review is:	Not very feasible or desirable ⟷	Feasible and desirable
Field	**Interdisciplinary**	**Disciplinary**
Problem(s)	**Emerging and complex**	**Recognized and specific**
Knowledge base	**Large or small**	**Reasonable size**
	Fragmented	**Homogeneous**
	• Empirically	
	• Conceptually	
	• Ideologically	
Research question	Changes as the review progresses	Fixed and precise
Research paradigms	**Interpretative** **Critical**	**Positivist** **Post-positivist**

Based on Dixon-Woods et al. (2006) and Gough et al. (2012).

Table 10 (Non-exhaustive) criteria used in systematic approaches to literature reviews and additional information on the work performed in this study

PROCESS CRITERIA	REPONSES TO CRITERIA
FRAMING OF THE REVIEW	
Definition of the research question	Yes
Objectives of the review	Yes
DOCUMENTARY SEARCH	
Consultation with experts	In part. The following co-authors can be considered experts: Doina Malai, expert in competency development, and Mathieu-Joël Gervais, expert in knowledge transfer and implementation science. This strategy was applied by these two people alone.
Database search	A literature review was carried out in five databases (Medline, ERIC, Health Policy Reference Centre, Political Science Complete, PsycInfo and Public Affairs Index. A combination of key words was used to represent the concept of "competency frameworks" and the concept of "use" (see complete syntax later on in this appendix.)
"Hand" search (in relevant journals)	No
Grey literature search	Yes. It was possible to review unpublished documents from the grey literature using the databases selected.
Snowball search (list of references)	Yes. We applied the snowball technique to the bibliographies of the 11 articles selected after searching the databases for additional references. This second phase of the search identified 256 additional references, two of which were included in the final articles.
Search of sources citing key sources	Yes: in an exploratory manner, but this search was inconclusive since none of the references seemed to be relevant to the objectives of this study.

Table 10 (Non-exhaustive) criteria used in systematic approaches to literature reviews and additional information on the work performed in this study (cont.)

PROCESS CRITERIA	RESPONSES TO CRITERIA
Key author search	No
Google Scholar search	Yes. Documents pertaining to the Public Health Skills and Knowledge Framework (PHSKF) were searched. However, this study was not conclusive because none of the documents found seemed relevant to the objectives of this study.
Consultation of experts to see if important sources had been excluded	No
SELECTION OF SOURCES	
Selection of sources by two researchers independently	In part: (1) 75% of the relevance assessment by title and abstract was carried out by two reviewers independently; (2) the relevance assessment of all full texts was carried out by two reviewers.
Discussion in the case of disagreement	Yes. Discussion made it possible to reach a consensus in all cases were opinions differed.
Use of a table of excluded sources and reasons for exclusion	Yes (but not presented in this advisory).
QUALITY ASSESSMENT	
Assessment using a recognized grid	Yes: the Mixed methods appraisal tool (Hong et al., 2018) No studies were excluded because of a lack of quality; however, some results were excluded due to an insufficient "level of evidence." In cases that were less clear-cut, the level of evidence was taken into account in the analysis.
Double-blind inter-judge assessment	No
Assessment of the risk of bias in the sources selected	No

Table 10 (Non-exhaustive) criteria used in systematic approaches to literature reviews and additional information on the work performed in this study (cont.)

PROCESS CRITERIA	RESPONSES TO CRITERIA
REGISTRATION OF PROTOCOL	
Was the journal's protocol registered and published?	No
DATA COLLECTION AND ANALYSIS	
In-depth examination of primary sources	No. That said, all of the articles selected were primary sources, except for the scoping review by Battel-Kirk and Barry (2019)
Structured approach for collecting data from the articles	Yes. The data were compiled in an Excel table for each article using a pre-established analytical framework, which was redesigned during the analysis when deemed appropriate.
Double-blind collection / coding and reproducibility	No. From an epistemological perspective (in this case, critical realism), reproducibility does not make much sense in situations where emerging categories have an important place in the thematic analysis.
Structured analytical method	Thematic analysis (see the description in the body of the advisory).
Triangulation	The results of the review were triangulated in part with the semi-structured interviews.
Characteristics of the sources selected	They are presented in a table in the body of the advisory.
ELEMENTS CONTAINED IN THE CHAPTER ON THE RESULTS	
Main results for each article	No
Results of the synthesis	Yes
ELEMENTS CONTAINED IN THE GENERAL DISCUSSION	
Main results	Yes
Limitations of the literature review	Yes
Implications for research and practice	Yes

This table is based mainly on Booth et al. (2012), and, to a lesser extent, on Whittemore (2007) and Ali and Faruquie (2015).

SYNTAX FOR SEARCHING THE DATABASES

S1 TI((framework or toolkit or "tool") N2 (competency or competencies or competent or "skill" or "skills" or skillset or skillsets or expertise or "know how")) OR AB((framework or toolkit or "tool") N2 (competency or competencies or competent or "skill" or "skills" or skillset or skillsets or expertise or "know how"))

S2 TI("continuing education" or recruitment or "human resources" or "HR" or career or "job description" or achiev* or indicator* or monitor* or sustainability or update or ((employee* or performance or professional or staff) N3 (evaluation or assess* or appraisal or development or developing or educat* or "train" or training or learn*)) or (("use" or "used" or "using" or "utilisation" or utiliz* or exploit* or example* or implement* or approach) N2 (competency or competencies or competent or "skill" or "skills" or skillset or skillsets or expertise or "know how" or framework or toolkit or "tool" or core))) OR AB("continuing education" or recruitment or "human resources" or "HR" or career or "job description" or achiev* or indicator* or monitor* or sustainability or update or ((employee* or performance or professional or staff) N3 (evaluation or assess* or appraisal or development or developing or educat* or "train" or training or learn*)) or (("use" or "used" or "using" or "utilisation" or utiliz* or exploit* or example* or implement* or approach) N2 (competency or competencies or competent or "skill" or "skills" or skillset or skillsets or expertise or "know how" or framework or toolkit or "tool" or core)))

S1 AND S

APPENDIX 2 CHARACTERISTICS OF THE STUDIES ANALYZED BUT NOT SELECTED AS CORE ARTICLES (N = 5)

Main characteristics of the studies analyzed but not selected as core articles (n = 5)

Table 11 Main characteristics of the research designs of the five publications analyzed but not selected as core articles

Authors, geographical area	Objective(s)	Type of publication	Methodology	Theoretical approach	Areas / functions and professional contexts	Target population	Main transferability issues
Battel-Kirk and Barry, 2008 Europe	Test the feasibility of implementing a pan-European framework for health promotion accreditation	Research report (grey literature)	Action research and survey	n.a.	Health promotion	Health promotion practitioners from 7 countries	Centred on potential health promotion accreditation; very contextual
Shilton et al., 2008 Australia	Explore potential uses of health promotion competencies	Peer-reviewed article	10 discussion workshops	n.a.	Health promotion	Health promotion practitioners and "leaders"	Uses are *potential* and not actual
Gallardo et al., 2012 Europe	Test the implementation of two competency frameworks in practice settings and make recommendations on implementation	Research report (grey literature)	Delphi surveys, online surveys, discussion groups, online consultation using discussion forums and social media	n.a.	Health promotion	Health promotion practitioners	The results largely concern structural elements specific to Europe and centred on the question of accreditation

Table 11 Main characteristics of the research designs of the five publications analyzed but not selected as core articles (cont.)

Authors, geographical area	Objective(s)	Type of publication	Methodology	Theoretical approach	Areas / functions and professional contexts	Target population	Main transferability issues
Gaboury et al., 2018 Canada	Explore how Francophone postgraduate medical education program directors have integrated a competency framework into their programs	Peer-reviewed article	Five group interviews and thematic analysis	Reference to Rogers' diffusion of innovations theory (2003)	Clinical medicine	Medical education program directors	Academic setting and residency in medicine
Shickle et al., 2019 United Kingdom	Assess the extent to which practitioners utilize competencies defined within the UK Public Health Skills and Knowledge Framework (PHSKF).	Peer-reviewed article	15 group interviews	Deductive analysis using the framework	Public health	Public health practitioners and managers	The focus was not on the use of the framework but on the alignment of the framework's content with pre-existing competencies

APPENDIX 3 INTERVIEW GUIDE

Interview guide

PROVIDE INFORMATION ON THE CONTEXT OF THE STUDY

Goal: To prepare an advisory on the use of reference frameworks(6), following an agreement to that effect with the MSSS.

Objectives

1) Document:

- Types of framework use
- Barriers and factors favourable to framework use
- Overall satisfaction and impacts of use

2) Make recommendations:

- Is it relevant to update the existing frameworks?
- Is it relevant to develop other frameworks?
- Is there a need for training on the use of competency frameworks or other support mechanisms?

*****DO YOU FEEL COMFORTABLE BEING RECORDED?*****

Questions

1) Are you familiar with the competency frameworks prepared by the INSPQ, the MSSS and its partners?

   One or more of the six frameworks listed below?

   - Profil des compétences pour l'exercice de la surveillance continue de l'état de santé de la population du Québec (April 2010)
   - Environmental Health Competency Framework for Public Health in Québec (July 2012)
   - Référentiel de compétence pour relever le défi de l'exercice de la responsabilité populationnelle à l'intention des CSSS et de leurs partenaires (August 21, 2012)
   - Occupational Health Competency Framework for Public Health in Québec (August 2013)
   - Référentiel de compétences en prévention et promotion de la santé pour le réseau de la santé et des services sociaux (July 2014)

- Référentiel de compétences en maladies infectieuses pour la santé publique du Québec (June 2018).

2) Do you use any of them (yes or no)? To what extent? (intensity)

3) Why? For which types of use?

4) What made you use them? (Did someone talk to you about them? Did you know that they existed and feel that they were relevant to your work? Other reason?)

5) Are you satisfied with the framework(s) you have used?

6) What would you say about the relevance of the frameworks under study?

7) Do you think they need to be updated? Could they be enhanced or improved in regard to their content and form?

8) Can you think of any recommendations to improve their use? Going beyond the frameworks themselves?

9) What do you think about the idea of developing common competency frameworks in public health?

10) Can you think of the name of anyone who might want to take part in the survey? (regardless of whether they use frameworks or not, but who would be likely to use at least one, in principle, on account of their functions).

APPENDIX 4 CHARACTERISTICS OF THE PEOPLE WHO TOOK PART IN THE EXPLORATORY INTERVIEWS

Characteristics of the people who took part in the exploratory interviews

Table 12 Characteristics of the people who took part in the exploratory interviews and of the areas covered by the frameworks

Area, function or theme	Area of use or activity	Organization	Professional role	Code
Risk management and environmental health	Knowledge transfer, management	INSPQ	Physician	M1
Knowledge transfer (KT) – multi-domain	Knowledge transfer	INSPQ	Scientific advisor	CS1
Prevention and promotion/Blood-borne and sexually transmitted infections (BBSI)	Facilitation of communities of practice	INSPQ	Scientific advisor	CS2
Population-based responsibility	Management, knowledge transfer, training	CIUSSS de la Capitale-Nationale	Manager	G1
Population-based surveillance and social inequities in health (SIH)	Annual Public Health Days, knowledge transfer, development of competencies, collective competencies, job mobility, communication, management	INSPQ	Scientific advisor	CS3
Occupational health	Annual Public Health Days	INSPQ	Physician	M2
Infectious diseases	-	INSPQ (LSPQ)	Physician	M3
Mental health of populations and SIH	Research and development	CCNPPS[41]	Scientific advisor	CS4
Public policies and SIH	Development of a new framework	CCNPPS	Scientific advisor	CS5
Prevention/promotion	Accreditation, development of a new framework	INSPQ	Physician	M4
Cross-cutting functions	Integration into the hiring process	INSPQ	Human resources	RH1
-	Labour relations	INSPQ	Labour union representative	RS1
-	Labour relations	INSPQ	Labour union representative	RS2

[41] National Collaborating Centre for Healthy Public Policy.

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