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What is This?
Learning in Health Care Organizations and Systems: An Alternative Approach to Knowledge Management

Nassera Touati¹, Jean-Louis Denis¹, Danièle Roberge², and Brigitte Brabant³

Abstract
This article presents, through the example of health care systems, a theoretically founded analysis of learning processes in the context of reform implementation. Following a critical assessment of the two most prominent approaches to knowledge management—mechanistic and organic—we propose another approach, which consists in coordinating the learning of interdependent actors. The potential of this approach is illustrated through an empirical case study of the implementation of a Quebec program to combat cancer.

Keywords
learning, knowledge management, health care systems

Introduction
Learning issues linked to ongoing reforms are prominent in the numerous research projects and publications focusing on knowledge management in

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the field of public administration (Hess & Adams, 2007; McNabb, 2006; Mercier, 2007; Rashman, Downe, & Hartley, 2005). As Segrestin (2004) aptly states, knowledge management has clearly become a market. This managerial approach strongly reflects a knowledge-related crisis in public action, which has implications for the legitimacy of the state and for its ability to respond to the population’s growing and increasingly complex needs and societal challenges (Finger & Brand, 1999). This knowledge-based crisis represents a serious risk for the survival of public systems, knowing that in such contexts lobbying dynamics, akin to some particular interests, can exploit this crisis to challenge fundamental principles of public service.

Consequently, states need to better understand their environment and develop knowledge to transform their practices (Finger & Brand, 1999).

For instance, to emerge from this crisis, a better understanding of value creation in the public administration is required. The key question then becomes how, constrained by limited resources, public organizations can maximize their performance using their dynamic capabilities to better adapt to changes in the environment (Pablo, Reay, Dewald, & Casebeer, 2007). Dynamic capabilities are defined as the ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece, Pisano, & Shuen, 1997). Works in strategic management have shown that dynamic capabilities help organizations maintain sustainability and performance. In a rapidly changing environment, the maintenance of dynamic capacities leads to the exploration of new ways of doing things, which gives rise to learning processes (Eisenhardt & Martin, 2000). Broadly defined, learning refers to “a collective phenomenon of acquiring and elaborating skills that to varying degrees and for varying lengths of time modify the management of situations and the situations themselves” (Koenig, 2006, p. 297, our translation). Learning is especially challenging in the public administration (Hartley & Benington, 2006): The production of relational services (Hasenfeld, 1983) requires the coproduction of knowledge among interdependent actors. The creation of knowledge often occurs at the interface of organizational boundaries and professional groups with their own autonomy. Several analysts (Finger & Brand, 1999; Hartley & Benington, 2006) note that the context of the public sector, characterized by the multiplicity of stakeholders with diverse interests and conceptions of performance, heightens the complexity of learning.

The acknowledgement of this complexity has engendered a paradigm for the implementation of public policy, the model of learned implementation (Schoffield, 2004): “This model considers that public servants have to learn how to implement new policy requirements” (p. 284). Unlike other models
that have dominated the literature, such as the advocacy coalition framework (Sabatier, 1988, cited in Schofield, 2004), the communication model of inter-governmental policy implementation (Gogin et al., 1990, cited in Schofield, 2004), and the ambiguity conflict model (Matland, 1995, cited in Schofield, 2004), the learned implementation model deals more directly with the messiness, ambiguity, and complexity of implementation. The other models “tended to portray policy failure as a form of bureaucratic ‘goal displacement,’ in terms of imperfect primary legislation and a failure of bureaucratic compliance” (Schofield, 2004, p. 289). Little attention has been paid to learning issues. For example, although Sabatier’s contribution contains elements related to learning issues, it does so non-micro organizationally (Schofield, 2004): Sabatier’s model addresses learning in a decidedly ideological and abstract way rather than from a detailed “technical” perspective (Schofield, 2004, p. 289). Because of these shortcomings, Schofield (2004) has proposed a new implementation model that states that “a lack of policy-action congruence is neither good, nor bad but something that carries a high degree of risk. To minimize risk, there is a need to develop, by different means (time, structures, etc.) abilities and capacities” (p. 304).

Like Schofield (2004), we assume that learning requires rationalization. By rationalization, we mean the introduction of means aimed at achieving learning. In our view, the question of learning rationalization has not been sufficiently examined in the scientific literature. As stated by Moynihan and Landuyt (2009),

> There is relatively little research done on organizational learning in public sector . . . this is surprising because the concept is the key assumption that underpins much of the contemporary public management reform. Existing empirical research relies largely on case studies which have been invaluable in identifying examples of learning and in suggesting the characteristics of learning organizations. But the question of how learning can be engineered remains in dispute (p. 1097).

Saying that, Moynihan and Landuyt (2009) have identified two schools of thought: One school considers that learning emerges from the culture of the organization and the second one argues that this latter approach underestimates the extent to which formal procedures can be used to foster learning. The work of Cohen, Rosenblatt, and Buhadana (2011), which examines the relationships between individual values and organizational learning, for example, is linked to the first school of thought: The findings of this study show that three values that reflect a focus on person–organization fit (security,
tradition, and universalism) are positively and consistently related to all dimensions of organizational learning. The work of Brown and Brudney (2003) is more interested in the role of structures, for instance, of information technology (IT) as a learning tool, and has explored the feasibility, effectiveness, and limitations of information and technology in promoting the learning organization in the public sector. The results of this research suggest some limits of IT: “Until methods are established for defining future information requirements, I&T systems may institutionalize old structures and perspectives” (Brown & Brudney, 2003, p. 42). Moynihan and Landuyt (2009) propose to bridge cultural and structural perspectives: They argue that it is useful to treat these two perspectives as connected and interdependent factors. For example, learning forums are a form of organization learning mechanisms consistent with a structural approach, and a straightforward piece of advice for leaders is to establish routines of information use. However, what makes such routines effective is the cultural attributes of the group and the wider organization. These findings are interesting in themselves. However, we agree with Rashman, Withers, and Hartley (2009) that the current literature does not sufficiently take into account the complex institutional and structural contexts of public organizations. For example, Moynihan and Landuyt’s study, based on a quantitative methodology, has shown that decision flexibility and autonomy have a “low” explanatory power as a determinant of the learning capacity. In fact, this study does not allow us to understand in which context authority can help learning. Our study, which is processual, aims to make a contribution to these issues: More precisely, our research aims to show how a certain form of authority is necessary for learning and innovation, at a systemic level, and more concretely how certain rationalization modes favor learning.

We address this question by focusing on the example of the health care sector, which in recent decades has undergone reforms intended to improve the quality of care through the implementation of services networks. As will be shown below, these reforms induce significant learning issues. In this sector, as in others, knowledge management is monopolizing debate (Leibowitz, 1999; McNabb, 2006). Two complementary approaches to knowledge management are at the core of these debates. Below, we describe these two approaches, presented here as ideal types:

- The first approach, called here mechanistic, belongs to the paradigm of evidence-based practice. Regulatory organizations thereby supply practitioners with scientific data to favor a change in practices. Learning is synonymous with conformity with external standards and prescriptions.
• The second approach is called here organic. It mainly supports the socialization process at play in communities of practices. It notably consists of (a) evolving from a perspective of application of knowledge to one of creation of knowledge (b) and valuing tacit knowledge (Bate & Robert, 2002). This approach thus aims for empowerment of the operational base and of communities of practice. Iedema, Meyerkort, and White (2005) argue that the implementation of reforms in health care systems relies on clinical teams that operate like communities of practice (CoPs) and fulfill three functions: participating (making time to attend teamwork), knowledging (meta-description about the work), and boundary spanning (drawing consequences and implications from knowledging). They echo in this respect Bate and Robert (2002), who advocate a more spontaneous, improvised, and naturalist knowledge management approach. Addicott, McGivern, and Ferlie (2006) deem knowledge management in the National Health Service to be overmanaged insofar as it has exacerbated power struggles, and thereby favor a more “laissez faire” policy. This position results from their finding that network management (formalization of objectives and protocols, reconfiguration of structures) has hindered the development of trust required for learning.

These two representations of knowledge management grant considerable power to the scientific elite and practitioners, respectively.

Our research questions can be summarized as follows:

Research Question 1: To what extent do the two main knowledge management approaches (mechanistic and organic) favor organizational learning? What are the limits of these approaches?

Research Question 2: How can a third approach that consists of coordinating learning of interdependent actors through rationalization modes of collective action represent an interesting alternative? Simply put, rationalization modes of collective action refer to formal mechanisms used for coordination in the broad sense.

Our analysis is based largely on a French school of thought, developed in the 1990s, which analyzes the links between organizational transformation and knowledge dynamics (Hatchuel, 1994; Midler & Charue-Duboc, 1993; Ponsard & Tanguy, 1993).

This article is organized as follows:
In the first part of the text, the main streams of thought concerning the concept of knowledge and organizational learning are analyzed. This analysis is followed by a theoretical evaluation of the pertinence of the two advocated approaches to knowledge management.

In the second part, we specify our theoretical perspective on learning processes. This theoretical perspective establishes an explicit link between rationalization modes of collective action and learning dynamics.

The third section outlines the methodological approach.

Section four presents the results of our empirical study of the implementation of a program to combat cancer. We consider the critical analysis of the knowledge management approaches described above and analyze, according to our perspective on learning processes, the potential of an approach that integrates learning issues into rationalization modes of collective action.

The conclusion discusses the conditions that favor these learning dynamics.

**Review of the Literature: Critical Analysis**

Two interrelated concepts are central to our analysis: knowledge and organizational learning.

**What Is Knowledge?**

Segrestin (2004) summarizes the controversies surrounding the notion of “knowledge” by stating that the best theories have been unable to draw a very clear line between knowledge and information, bearing in mind that these two notions have often been confused (Hartley & Benington, 2006). Nonaka and Takeuchi (1995) propose an initial distinction between the two, that is, “information is a flow of messages while knowledge is a flow of information anchored in the belief and commitment of its holder” (p. 58). Some researchers have striven to better grasp the nature of knowledge: sticky versus leaky, explicit versus implicit (Polanyi, 1967), and individual versus collective. Authors such as Brown and Duguid (2001) have pushed reflection further by explaining that knowledge can be simultaneously transferable and nontransferable (sticky and leaky). Its nature (transferable or nontransferable) is inferred by the activity in which the actors are engaged. If such an activity involves several organizations, knowledge is transferable, and vice versa. To go beyond the epistemology of possession that is inclined to reason in terms of the superiority of one type of knowledge over another (the superiority of explicit/implicit
knowledge and collective knowledge over individual knowledge), Cook and Brown (1999) suggest placing individual and collective knowledge and implicit and explicit knowledge on the same footing and, above all, deeming both knowledge and knowing to be enabling (the latter notion was introduced by Blackler, 1995). According to this practitioner-based epistemology, the production of new knowledge stems from individuals’ interaction with work. “It lies in the use of knowledge (explicit and/or tacit) as tools of productive inquiry (of the sort we have called ‘knowing’) as part of our dynamic interaction with the things of the social and physical world” (Cook & Brown, 1999, p. 77). Orlikowski (2002) contends that knowledge and practice are reciprocally constituted (knowledgeability of action). Moreover, knowledge is enacted, which means that knowledge is implicitly a form of knowing inseparable from action.

Knowing how to ride a bicycle, recognize faces are capabilities generated through action: they emerge from the situated and ongoing interrelationships of context, activity stream, agency and structure. People’s ongoing engagement in social practices, and thus their reproduction of the knowing generated in those practices, is how they reconstitute knowledgeability over time and across contexts. Continuity of competence, of skilful practice, is thus achieved not given (Orlikowski, 2002, p. 253).

These works associated with the concept of knowledge led us to adopt a process-oriented, contextual, and practice-based vision endorsed notably by practice theory (Feldman & Orlikowski, 2011, p. 1). This theory is based on the following three principles: an empirical focus on how people act in organizational contexts, a theoretical focus on understanding relations between the actions people take and the structures of organizational life, and the philosophical focus on the constitutive role of practices in producing organizational reality. This vision of the concept of knowledge is closely linked to the social perspective of learning processes. Our analysis of rationalization of learning considers the merits of this vision but also shows its limits in terms of potential.

Readings of the Learning Process

The literature devoted to the notion of organizational learning is prolific. Rather than review it here, we recommend that interested readers consult Easterby-Smith and Lyles (2003). Suffice to say that the literature has undergone three waves, corresponding to different perspectives of the organization, linked to different conceptions of organizational learning (Peltonen & Lamsa, 2004).
Focus on individuals: The advocates of this wave, such as Simon (1991) and Argyris and Schon (1978), suggest that only individuals learn. As stated by Simon (1991), “All learning takes place inside individual human heads: an organization learns in only two ways: a) by learning of its members or b) by ingesting new members who have knowledge the organization did not previously have” (p. 125). Organizational learning is therefore fostered by supporting individual cognitive processes.

Focus on organizations, perceived as learning entities: Authors such as Huber (1996), Fiol and Lyles (1985), and Shrivastava and Schneider (1984) maintain that organizations have a memory and that they learn by trial and error, particularly in response to feedback from the environment. For example, Huber (1991) proposes that learning occurs in an organization if through its processing of information, the range of its organization’s potential behaviors change. The structures and cultures of the organization determine its ability to learn.

Focus on organizational processes, more specifically on the process of creating meaning: This wave, which now constitutes the dominant paradigm, is linked mainly to research that emphasizes the social nature of learning processes (Tsoukas, 2002). Authors such as Brown and Duguid (2001) and Wenger (1998) maintain that the acquisition of knowledge is an emerging process that represents the acquisition of an identity through participation in a CoP. This perspective is noteworthy for several reasons: The notion of a CoP introduces mediation between individuals and social cultures and between organizations and their environment. It focuses on practice and highlights the existence of several identities. CoPs are essentially self-organized systems whose existence stems from a practice shared by several members engaged in a collective learning process (Peltonen & Lamsa, 2004).

Nonetheless, questions concerning the validity of this perspective occasionally arise. Handley, Sturdy, Fincham, and Clark (2006) oppose the theories that emphasize socialization as the ideal means of learning insofar as socialization tends to reproduce communities and practices, which implies that this perspective does not allow for learning and innovations. Handley et al. (2006) argue that conflicts can arise inside a community: The actors do not compartmentalize their identity according to the community in which they find themselves. Individuals maintain some sense of agency and adopt different forms of participation in different communities, which creates tensions within communities. Furthermore,
the COP notion does not fit squarely with how temporary organizations or project organizations operate. Typically these kinds of groups consist of diversely skilled individuals, most of whom have not met before, who have to solve a problem or carry out a pre-specified task within tightly set limits as to time and costs. As a result they tend to become less well-developed groups, operating on a minimal basis of shared knowledge and understandings (Lindkvist, 2005, p. 1189).

Lindkvist (2005) proposes the concept of the collectivity of practice, which differs from a CoP in three ways. By distancing themselves from the logic of socialization, collectivities of practice bring into play cognitive efforts and deliberation processes and trial and error operations to test solutions more extensively. In this conception of learning processes, the dynamics of knowledge escape one’s control: knowledge then takes on a life of its own.

We can thus assert that there is no consensus concerning the role of socialization in organizational learning.

Fox (2000) blames the CoP perspective for not considering questions of power that characterize relationships between apprentices and older members of the community. To make up for this shortcoming, he recommends rounding out the analysis by mobilizing actor–network theory (Callon, 2001; Latour, 2005), based on the Foucauldian concept of power (relational and productive power), whereby the creation of new knowledge stems from a multifaceted struggle involving oneself, others, and the material world.

Overall, the scientific literature underlines, on a theoretical level, both the merits and limits of the CoP perspective.

Theoretical Assessment of Knowledge Management Theory

The literature review will help us to undertake a first assessment of the two most common approaches to knowledge management, namely, mechanistic and organic.

Evaluating the Mechanistic Approach to Knowledge Management

As mentioned above, the “mechanistic,” or evidence based, approach to knowledge management is concretely defined by its emphasis on circulation of scientific evidence to influence practices. If this approach has merits a priori, particularly as a benchmarking and therefore a learning tool, the limits of this approach can be foreseen, resulting from its conception of knowledge. The idea that it suffices to circulate knowledge to induce learning reflects
confusion between the concept of knowledge and information. In other words, this approach does not sufficiently consider the fact that learning is strongly anchored in action.

Empirical studies confirm the limits of this approach. They show that real practices remain impermeable to evidence. For example, Pfeffer and Sutton (2006) report that only about 15% of physicians weigh evidence when making decisions. Disillusionment in organizational innovation based on evidence is also considerable (Sheaff, Pickard, & Dowling, 2006). Many works on knowledge use have advanced explanations concerning the difficulty of knowledge transfer (Champagne, Lemieux-Charles, & McGuire, 2004), which may be related to characteristics of scientific evidence (availability, timing, etc.), organizations and the system (organizational culture, leadership, etc.), decision makers (attitudes, skills, etc.), and decision-making processes (multiplicity of stakeholders, etc.). Although all these elements can explain the limits of the mechanistic approach to knowledge management, these limits are also clearly fundamentally related to the fact that this approach does not consider the knowing processes.

Evaluating the Organic Approach to Knowledge Management

The organic approach to knowledge management rests on a social perspective of learning processes. In a critical analysis of the literature, Roberts (2006) formulates several questions that represent promising avenues of research to better understand the role of socialization in learning. They include (a) the influence of the sociocultural context on the success of the approach; (b) interaction between communities of practice and formal structures of the organization, knowing that communities’ interests are not necessarily aligned with those of the organization (Kimble & Lidrech, 2004, cited in Roberts, 2006); and (c) the formation of communities’ boundaries. To our knowledge, few empirical studies have explored the contribution and especially the limits of the organic approach to knowledge management in depth. As stated by some authors, the empirical research has mainly focused on the benefits of CoPs (Mork, Hoholm, Ellingsen, Edwin, & Aanestad, 2010). For instance, CoPs are considered to be important arenas for learning and innovation. Authors, like Swan, Scarborough, and Robertson (2002), have even suggested that building communities of practice is an effective strategy in the management of innovation: As shown by their case study, “seeking to construct a new community of practice, the organization’s management were not simply exploiting a sense of community for political purposes, but were actively
engaged with it for the production of knowledge.” (p. 493). Elsewhere, some empirical studies have been more interested in the difficulties and limits of communities of practice. For instance, Ferlie, Fitzgerald, Wood, and Hawkins (2005) have identified barriers to innovation across CoP, due to cognitive and social boundaries. Other authors (Newell, Robertson, & Swan, 2006; Nicolini, 2007; Mork et al., 2010) have more emphasized the political issues at stake in CoPs, political issues which greatly influence the potential for success or failure. Hong and Fiona (2009) have, on another hand, highlighted the social tensions surrounding dynamics in CoP, due to multiple identities. Overall, these works tend to be less optimistic about the potential of CoPs.

As already mentioned, our research proposes also an empirical analysis of knowledge management approaches, including the organic one (CoP approach). Saying that, our perspective is different: as we will see, it concerns the ability of CoPs to optimize learning at the systemic level.

In the following section, we will present the analytical framework used to guide our analysis of learning processes.

**Analysis Framework: Our Vision of Learning Processes**

As discussed above, the dominant reading of learning processes, namely that based on the concept of communities of practice, has been increasingly criticized. Fox (2000) suggests that it be supplemented with actor–network theory to take into account the role of power in learning processes.

How well does actor–network theory respond to the criticisms leveled against the theory of CoPs? Aggeri and Hatchuel (2003) and Dodier (1997) question the ability of actor–network theory to account for the actors’ means of knowing: Through the standardization of their description of sociotechnical networks, this research trend erases the sociotechnical distinctiveness of each case study. As Hatchuel (2000) notes,

> A given actor to whom we propose the purchase of a patent can only be interested inasmuch as the notion of a patent exists, that it is known to the actor and that the latter’s perception of its functioning encourages him to use it” (p. 23).

Said differently, the actor–network theory does not sufficiently consider the influence of rationalization modes on actors’ dynamics.

collectives only to the extent of the rationalizations of collective action of which they are capable—our translation” (p. 23). The concept of rationalization makes it possible to link the representation of the action and the action itself without superimposing them. It thus maintains important links with the notion of enactment introduced by Weick (1979). The rationalization of collective action is not grasped here as a metaphysics of action (Hatchuel, 2000). On the contrary, it is regarded as a relative, tentative conceptualization given the very limitations of knowledge (Hatchuel, 2000).

Hatchuel (2000) also argues that the basic principle of a theory of collective action is the inseparability of relationships and knowledge. Consequently, collective action can be instigated only by reconstructing relationships that are compatible with a modification of knowledge and by reconstructing knowledge compatible with the modification of relationships (Hatchuel, 2000). These movements are made possible through rational myths, conceptions of the world that express innovative knowledge accompanied by new relationships that constitute catalysts of action, and through prescription-based relationship between actors that allows coordination of the actors’ learning. Prescription refers to the knowledge that comes from others to orient our action. Prescription-based relations refer to the relationship between the prescriber (initiator of the prescription) and the recipient (operator). The prescription may be strong, average, or weak.

By clarifying the interdependence of knowledge (contents of the prescription) and the relationships (nature of the relation), the concept of prescription-based relations is, Hatchuel (1994) asserts, more elaborate than that of power because it underlines that power always has a twofold dimension. Hatchuel’s theoretical framework defends a contextualized perspective of knowledge in that the production of knowledge is conceived as a collective action that is influenced by the nature of the activity concerned. The conception of learning dynamics as prescription-based relationship between actors (Hatchuel, 1994) also reflects the idea that knowledge does not precede action, that it transforms itself through interaction and thus reaffirms the merits of a process-based conception of knowledge (knowing).

It is precisely the ignorance of the fact that an organization is an avenue for design and prescription that constitutes the basic criticism put forward by Hatchuel, Masson, and Weil (2002) regarding the notion of CoP. They think that it is hard to talk about communities because the members are not equivalent from the standpoint of regulation processes, and that in contexts of innovation the delineation of boundaries is not established.

Hatchuel and other authors (Midler & Charue-Duboc, 1993; Ponsard & Tanguy, 1993; Touati & Sardas, 2006) underscore the need to go beyond a
purely “community” perspective of learning dynamics and advocate examination of the role played by coordination devices (rationalization modes of collective action) in these dynamics. Touati and Sardas (1997, 2006) have shown that some coordination devices have more potential in terms of learning if they are explicitly conceived for that purpose. For example, these learning tools aim at modeling the decision processes and are based on interpretative criteria.

The analysis framework adopted in this article is based on the assumption that learning processes are closely linked to the rationalization modes of collective action. More precisely, the research hypotheses resulting from our framework can be summarized as follows:

**Hypothesis 1**: Mechanistic and organic approaches to knowledge management are insufficient to renew knowledge and practice. The use of a form of authority is necessary for innovation and learning.

**Hypothesis 2**: Organizational learning involves rationalization modes of collective action that allow the coordination of learning among interdependent actors.

**Hypothesis 3**: The potential of these rationalization modes in terms of promulgation of learning dynamics depends on the logic of their conception. These rationalization modes may transform knowledge and relations among actors.

**Method**

**Research Strategy**

To study learning processes in health care transformations, we adopted a case-based inquiry as a research strategy. The case study is a very appropriate research design when the researcher asks “why” or “how” research questions and is interested in examining contemporary phenomena in their naturally occurring contexts (Stake, 2000).

We have performed a longitudinal multicenter (several institutions) case study since 2001. The case corresponds to a regional network of oncology services. In the first phase, from 2001 to 2004, the research team evaluated the first phase of implementation of this service network. In the second phase (2006 to present), some members of the team continued to monitor the implementation of this network to evaluate its effects. Another research project (spring 2010) has extended the case study: It is investigating the potential of knowledge-transfer activities organized by the regional board to help institutions analyze the performance of their network. These activities are directly
related to the performance management activities of the regional board. The participants in these workshops were invited to evaluate these workshops using a form.

**Research Context**

The case study draws on the experience of the Quebec health care system. Most health care services in this province are funded by the government through taxpayer contributions. These services are provided by

1. Public institutions. At the beginning of the study, the health care network included acute-care hospitals, long-term care hospitals, and frontline community organizations, commonly known as local community service centers (CLSCs; community clinics offering, among other things, home care and social services). Since 2004, the health system in Quebec has changed dramatically. New structures, namely, Health and Social Service Centers (HSSCs), were created through the merger of the three types of organizations operating on the same well-defined geographical territory. These new HSSCs are responsible for the population’s health and were required to develop contractual agreements with other providers inside or outside their territory that offer services to the local population (e.g., voluntary agencies, medical clinics, tertiary-care hospitals) to create local health and social services networks.

2. Physicians in private practice or working in institutions paid mostly on a fee-for-services basis.

The system is regulated on two levels:

*The macroscopic level.* The provincial government determines the extent of coverage under the medical insurance scheme, the population insured, the division of power between decision-making levels, and the definition of areas of practice of the various professionals, and signs collective agreements governing human resources management.

*The mesoscopic level (specifically the organizing of the provision of health care services).* In Quebec, until 2004, regional regulatory agencies were mandated to organize health care services according to the particular needs of the region. They are also responsible for allocating resources to public institutions. In the reform of 2004, the power to make decisions concerning the
The organization of services was transferred to the HSSCs. The regional agencies are mandated to support the implementation of health services networks.

The health ministry adopted the “Program to Combat Cancer in Quebec” (PCCQ) in the late 1990s to counter the following:

- the high prevalence of cancer in Quebec
- gaps in the organization of services affecting the response to the needs of cancer patients and their families and the quality and efficiency of care.

To enhance accessibility, continuity, and quality of services, a provincial task force designed a program that notably proposed the reorganization of services and, more specifically, the implementation of integrated regional service networks in oncology. The reorganization comprises the following:

- creation of regional centers of excellence that offer specialized and ultraspecialized oncological services to the population, in conjunction with other institutions in the region;
- introduction of measures to foster coordination of health care, including (a) the creation of multidisciplinary local, regional, and supraregional teams in oncology; (b) introducing a nurse case manager in oncology on each of teams, who assesses the clientele’s overall needs and coordinates services; (c) harmonization of professional practices; and (d) formalization of links between institutions.

The implementation of these networks implies the strengthening of collaboration between different organizations and between professionals. Regional boards were asked to implement the program in the late 1990s.

In its 1999-2002 strategic plan, the regional board made the fight against cancer a priority, based on the fact that medical service utilization exceeds the Québec average. The recruiting by the regional hospital of a leading oncologist (one of the designers and promoters of the provincial program) in 1999 certainly played a key role in this decision. The oncologist insisted on the need to establish a center of excellence in oncology in the regional hospital and an integrated service network in the region. The project proposed by this leading oncologist initially met with fierce resistance from most oncologists and hospitals in the territory. They feared a loss of clientele and expertise. Consequently, the change strategy in this region was essentially bottom-up, yet oriented by a regional program. The hospitals had some leeway in the
implementation of the program, and nurse case managers were given considerable responsibility for practice changes. Consequently, this case study provides insight into learning issues.

**Data Sources and Analysis Methods**

Analysis of learning issues rests mainly on qualitative data resulting from evaluation of the first phases of implementation of the Montérégie cancer network and the ongoing study on the potential of knowledge-transfer activities. The following data sources were used:

- Nonparticipant observation beginning in October 2001 at most administrative meetings pertaining to regional governance of change. For example, we attended meetings of the steering committee and the task forces set up by the regional board. All told, we attended 50 meetings.
- Participant observation: One author of this article works as a programming and planning officer at the regional authority and is responsible for the regional cancer program. As a supporter of the implementation of the cancer networks, he is well informed about issues in the field.
- Semistructured interviews with network promoters (e.g., clinicians and representatives from the regional board), professionals from multidisciplinary teams, and hospital managers (e.g., nursing, heads of oncology outpatient clinics). We conducted a total of 65 interviews over an extended period, each of which was fully transcribed and coded using Nudist software (6.0).
- Documentary analysis (task force reports, evaluation report produced by the ministry, etc.), which provided data on the change processes. In addition, we analyzed evaluation questionnaires completed by participants in knowledge-transfer workshops.

We cross-tabulated the various data sources to strengthen the study’s internal validity.

These data were subject to thematic analysis (Braun & Clarke, 2006), which includes identifying and analyzing themes revealed by the data. Specifically, we used an inductive and deductive approach that allows the researchers to derive meaning using an analytical framework and the literature, while seeking new meaning. This method comprises six steps: familiarization with the data, coding, research revision, reviewing themes, defining themes, and final report.
The following section summarizes the main results of our analysis. First, we describe the degree of implementation of the program to fight cancer. Second, we clarify the challenges of learning as part of the implementation of this program and show the value of going beyond the mechanistic/organic approach to knowledge management. Finally, we discuss the merits of an alternative approach that transcends the mechanistic and organic approaches and includes managing knowledge by coordinating the learning of interdependent actors.

**Results**

**The Program to Combat Cancer: Degree of Implementation**

Considerable progress was made in implementing the PCCQ in the first few years. Most of the stakeholders shared the philosophy and vision of the program. Interprofessional trust and respect developed, to different degrees, within local teams in hospitals. Similarly, interorganizational trust grew gradually. From a clinical standpoint, multidisciplinary teams were formed, and met regularly in all of the region’s hospitals. In addition, the position of nurse case manager in oncology was created. Numerous measures to coordinate the team members were introduced (e.g., patient profiles). In almost all instances, organizational efforts were made to enhance the management of oncological emergencies. The role of nurse case manager developed gradually: The evaluation of the implementation of the program shows that a large proportion of new cases received evaluation of needs in the first month of care. The data also indicate relational continuity: For instance, an important percentage of patients have a consistent and reliable relationship with a case manager. From an administrative standpoint, efforts were made to stabilize the teams and coordinate training and the organization of services to improve the continuity of care.

Progress was achieved through support from the regional board (resources, information, etc.) and through the leadership of professionals who have successfully used several tactics (perseverance, creation of alliances, persuasion, control of the decision-making agenda, etc.) to overcome the initial resistance of the physicians and institutions and to mobilize the actors concerned around a common vision. However, some changes in practice included in the program to fight cancer were more difficult to make. For example, tools to aid clinical intervention have been adopted at a slower pace (e.g., quality standards and clinical protocols). Interprofessional and interorganizational collaboration have emerged slowly. These changes in practices require significant learning, as will be discussed next.
Implementation of Reforms and Learning Issues

The data analysis shows the importance of learning issues, at the individual and collective levels, within management and in the clinical domain. The actors in the field are aware of the challenges of new knowledge development to varying degrees. Concerning management, as shown in our data, these challenges refer to several aspects such as performance analysis, development of a “clientele” vision, and paradox management.

We have a lot of data but we don’t analyze it. So we can’t use it to prove our efficiency. We really need to be able to appropriate all this data. It’s a bit of a gap that we have. (Stakeholder-our translation)

I think it requires greater openness by managers to question themselves. When you build a network like this, you have to be willing to produce new evaluation modes, to be very clientele oriented. I think this vision is quite different from the usual one. (Director of professional services-our translation)

When you talk about an integrated network, you’re talking about two things: you’re talking about many people that work together and come from different horizons and the fact that you have a unique project. It’s not always easy to reconcile these two paradoxes. So managers must be skilled at working with paradoxes, which is not true of everyone. (Administrator of a hospital-our translation)

Learning needs also concern clinical intervention:

If I look at nursing care, knowledge is related to prevention, teaching of risk factors, early detection. So what are the means to do that, to teach this to the population? Once cancer is identified, there is important knowledge about what this means. (Director of nursing-our translation)

The learning issues arising from implementation of the new role of nurse case manager were particularly demanding. For example, in terms of clinical intervention, nurses had to learn how to do the initial needs assessment: The assessment tool was then modified based on the reactions of the clientele. In addition, nurse case managers needed to learn to better circumscribe their role:
They initially had a very global understanding of their support role toward users and their families, knowing that the program to fight cancer specified that the nurse case manager should support the users throughout the care continuum. Gradually, the nurse case managers assimilated what their role entails by differentiating it from that of other professionals (such as palliative care nurses). Changing the practices of these nurses was not easy because other team members felt threatened by the importance of the role of nurse case manager. The organizations also tended, in a context of shortage, to use nurse case managers as additional resources for provision of care, potentially detracting from their other responsibilities.

Beyond the specific role of nurse, development of interprofessional and interorganizational collaboration entails development of new knowledge. This is why training in multidisciplinary functioning was offered, following the diagnosis by the leader of the nurse case manager community:

Nurse case managers present new cases and tools for interventions. But professionals simply listen and are unable to pinpoint problems.
(Regional leader—our translation)

The respondents also realized that the formulation of multidisciplinary interventions is quite challenging. Comments such as “You have to help professionals work efficiently, they do not necessarily learn this in school. They have to learn to formulate hypotheses and suggest interventions to other team members” illustrate the need for interprofessional learning. Learning challenges also arise in interorganizational collaboration, as the difficulties of coordination during hospital discharge (e.g., disruption in continuity of care) “prove.”

**Transcending the Mechanistic and Organic Approaches to Knowledge Management**

Aware of the importance of learning issues, network promoters strongly relied on the formation of communities of practice, namely, regional committees for each type of profession, headed by regional “leaders.” Nurse case managers were the first to meet regularly to discuss their work and difficulties at the workplace. Gradually, other types of professionals (social workers, pharmacists, oncologists, etc.) adopted the same functioning modes. Aside from regularly held informal exchanges and work meetings, these communities of practice received training to promote the changes in practices. In addition, as part of a broader approach supported by the creation of a knowledge manage-
mment and information division, the regional board sought to supply practitio-
ners with reliable evidence-based data by disseminating a watch bulletin, in
which information was organized by continuum (including oncology).

The dynamics created by these communities of practice are, from the
respondents’ standpoint, positive regarding the sharing of knowledge. The
following testimonial eloquently expresses this view:

With nine centers, what is interesting is that if a tool is created because
someone said it would be interesting to have this tool, the tool is shared
with the nine centers. So each one does not need to try to create this
tool because someone brings it to a meeting, works on it to make sure
it meets the needs of every one of the centers, and the tool is made
available. Before, we didn’t have that. We all had our own little home
businesses all behind close doors. We missed lots of things, there were
many things that we didn’t know about, so we couldn’t attend to them.
But now, as we’re all on the same page, we take care of it. So now
people are developing through the network. (Department head—our
translation)

Nonetheless, the analysis of the implementation process of the program to
combat cancer also shows the limits of these communities of practice. For
instance, the communities’ “laissez faire” strategy deters them from exploiting
learning situated outside the community, and can thus harm the performance
of the system. This lesson is drawn from analysis of the dynamics of the medi-
cal community, as shown by our observational data. Facing problems of acces-
sibility to oncology services, the community had considered involving general
practitioners in treatment of cancer cases. This solution suited the oncologists,
who could no longer meet the demand for care, along with some general prac-
titioners interested in development of expertise in a specialized field.
Furthermore, the physicians in question, focused on the problem of organizing
oncology services, were convinced that the clinical learning issues were con-
trollable. In this case, the regional board decided to intervene to promote a
more global perspective. The regional board was aware of the importance of
taking into account the more comprehensive efficacy of service organization
models. It intervened to prevent hospitals from recruiting family physicians to
treat cancer to avoid detracting from the more comprehensive role of primary
care. Indeed, population surveys conducted by the regional board showed
great weaknesses in frontline services, translated by problems of continuity
and accessibility to primary care. Consideration of the findings of the survey
and the decision to limit the autonomy of the medical community minimized
the perverse effects of organization of services by illness.

This confirms the crucial role of the authority and power that a regulatory
body can mobilize to encourage learning. The regional boards, as part of their
responsibilities for planning and coordinating care across the regions, use more
comprehensive knowledge, related, for example, to services use paths, and are
indeed well placed to assess service organization models from a population-
based viewpoint. To summarize, this example shows that the organic approach
to knowledge management cannot develop the knowledge required to optimize
the performance of the system, hence the need for stronger intervention by regu-
latory bodies. Conceivably, a mechanistic, evidence-based approach to orienting
changes in practices would fill the gaps in the organic approach. However, analysis
of the empirical data drawn from the participatory observations, confirms
once again that appropriation of the evidence by the practitioners is very prob-
lematic: Many years after the start of implementation of the cancer network, the
heads of the regional committees still believe that knowledge-transfer issuing
notably from training is far from assured.

Overall, our observational data lead us to think that one must go beyond
organic and mechanistic approaches to knowledge management to support
organizational learning. In the following sections, we analyze the potential of
an alternative that consists of integrating the challenges of vertical learning in
rationalization modes of collective action, to coordinate learning among
interdependent actors, that is, the health care organizations and the regulatory
bodies. We illustrate this alternative approach through the example of perform-
ance management in cancer treatment services: The assessment of this
approach is mainly based on the evaluation questionnaires completed by par-
ticipants in knowledge-transfer workshops.

Coordinating the Learning of Interdependent Actors

By noting the difficulties encountered by managers in performance analysis,
the Montérégie Cancer network decided to launch knowledge-transfer work-
shops as part of a pilot project involving health centers and representatives
of key stakeholders (at minimum, the director of the oncology program, the
clinical administrative supervisor, the medical director, a nurse case man-
ger, and a consulting palliative care nurse). The participation of decision
makers and clinicians in these workshops is an innovative element in that
these two types of actors do not usually have opportunities to jointly discuss
and analyze management issues in their organization. These workshops led
to a substantial change in managing the performance of the health centers, knowing that management had traditionally been top down. The board was now attempting to integrate vertical learning in performance management. This was translated by structuring dialogue between the health centers and the regional board.

Concretely, as part of these workshops, the participants used a global performance assessment tool to better understand the strengths and weaknesses of the HSSC. They also examine the performance of the whole continuum (prevention, detection and diagnosis, treatment, palliative care) to help the centers assume their full responsibility in cancer preventing and treatment. The tool used in this workshop, inspired by a particular model of performance evaluation (global and integrated evaluation of the performance of health care; Sicotte et al., 1998) has the advantage of considering different dimensions of performance, referring to the four functions of viable organizations: (a) goal attainment (efficiency, effectiveness, and user satisfaction); (b) the production function (coordination of production factors to ensure the productivity of resources, quality of care, etc.); (c) adaptation to the environment (consideration of opportunities and threats: response to the needs of the population, ability to mobilize the community, etc.); and (d) maintenance of values (cohesion, organizational climate). This vision of performance establishes links between different dimensions of performance. The tool therefore responds to a particular logic of design and use because the indicators are grouped by dimension of performance and the tool is used to support reflexivity in performance evaluation. Rather than comparing the indicators with standards and objectives, the users attempt to make sense of the data. The leaders of the workshops interpret the performance indicators jointly with participants by exploring areas of possible explanations referring to alignment issues: strategic alignment (coherence among the functions of goal attainment and adaptation), tactical alignment (coherence among the functions of goal attainment and production), operational alignment (coherence between the adaptation function and maintenance of production values), allocative alignment (coherence between functions of adaptation and production), and legitimacy alignment (coherence among the functions of goal attainment and maintenance of values). For example, poor performance in the quality and continuity of care may be explained by a problem of human resource management (operational alignment). Because this performance assessment tool clarifies performance management issues, it is comparable to a learning tool, that is, a tool that supports reasoning.

Beyond the role played by this global performance assessment tool, comparison of the performance of a given HSSC with that of other centers and analysis of the evolution of performance over time add value in terms of
learning. Collectively, these three means (learning tool, benchmarking, and longitudinal analysis) allow HSSC to develop analytical capacities and make strategic decisions accordingly. The regional board supports their decision-making processes by examining the contextual constraints of the centers. Therefore, the improvement objectives discussed in the workshop are intended to ensure coherence among the priorities of the HSSC, resulting from the multiplication of sources of regulation (recommendations by accreditation bodies, government departments, etc.). As described below, workshop participants found the reflection exercises interesting, according to testimonials and the compilation of statistics related to evaluation of the workshops (Table 1).

We identified possible causes of our problems with a consensus and found solutions. (Participant in workshop 1- our translation)

<table>
<thead>
<tr>
<th>Table 1. Evaluation of Workshops by Participants: Results</th>
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<tr>
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<tr>
<td>HSSC 1</td>
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<tr>
<td>The performance analysis approach helps me understand the results of my network.</td>
</tr>
<tr>
<td>The approach increases my capacity to use data.</td>
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<td>The approach let me imagine new solutions to a specific problem.</td>
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<td>The approach prompts reflection on the practices of my organization.</td>
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<td>The approach informed me of data that I did not know about before.</td>
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<tr>
<td>HSSC 2</td>
</tr>
<tr>
<td>The performance analysis approach helps me understand the results of my network.</td>
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<td>The approach increases my capacity to use data.</td>
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Note: HSSC = Health and Social Service Center.
It is a positive thing to offer the team a place for reflection.
(Participant in workshop 2-our translation)

If attempted changes in the modes of performance management integrate local learning as a primary concern, it is important to underline that it also allows the regional board to learn. These workshops offer an opportunity to interpret the results of program assessment conducted by the regional board and adjust regional plans accordingly.

The integration of learning issues in the rationalization of collective action, here performance management, implies substantial changes in management mechanisms. For example, the board adapted its information systems, initially designed for administrative control, to be able to better replicate and understand the services use paths. This assumes also a different logic of accountability of institutions toward the regional board. The HSSC should now evolve from a logic of strict control and assurance to a logic of better understanding the constraints on the attainment of objectives.

Overall, the case study presented here describes the introduction of an innovative approach to knowledge management that does not simply endorse the use of evidence or standards to improve practice. Contrary to the discourse that calls for greater autonomy of communities of practices, this study proposes a rationalization of learning translated by weak prescription-based relationship between interdependent actors, in this case the regional board and delivery organizations. These prescription-based relationships are considered weak because they do not seek to impose a method to gain improvement, which would be difficult in a context of innovation. Rather, they seek to formalize a concept such as performance and guide reasoning and decision making. The shift toward these methods of rationalization represents a substantial change from current practices. Indeed, there are now numerous prescriptions in the health care system (practice standards, administrative control mechanisms, etc.) but little attempts to rationalize learning for improvement gains.

The introduction of rationalization of learning raises many challenges at a more systemic level. For instance, the actors must ensure that the regulatory mechanisms are compatible with a logic of learning. As part of implementation of the program to fight cancer, the regional board was concerned with the regulation mechanisms that govern HSSC. The workshop leaders helped participants make decisions about their action priorities by taking into consideration the constraints they face (expectations of accreditation bodies, ministerial departments, etc.). Nonetheless, control of the coherence among regulatory mechanisms and learning imperatives (e.g., giving the actors autonomy to adjust to the local context) is largely beyond the control of the regional boards.
because of the involvement of other actors such as the ministry and certification agencies. This situation puts the regional boards in a delicate situation because they cannot ignore the guidelines from the ministry even if they impede local dynamics.

**Discussion and Conclusion**

Throughout this article, we have sought to defend the idea that the knowledge management approaches advocated by numerous analysts cannot respond effectively to the learning issues that the health care system and several other sectors of the public administration are facing in their attempt to implement reforms (Hess & Adams, 2007; McNabb, 2006; Mercier, 2007; Rashman et al., 2005). Our case study confirms the limits of the mechanistic approach in inducing learning. The organic approach, akin to the concept of CoP, is interesting in that it offers an opportunity to share experiences, yet has serious limits. As stated by Hatchuel et al. (2002), and supported by our empirical data, the notion of community is open to criticism because it ignores the importance of prescription in learning processes.

Indeed, our case study illustrates that the creation of knowledge useful to the organization and to the whole system does not emerge solely from interaction among the actors: Such interaction needs to be structured through prescription-based relationships between the actors: “Free exchange solidly anchored in knowledge management is incapable of giving rise to a veritable dynamic of innovation” (Segrestin, 2004, p. 292). In other words, the rationalization of learning processes cannot be achieved without a veritable modification of the rationalization modes of collective action. Thus, knowledge management is not added to team management: “To manage the process of producing knowledge is the starting point from which the organization’s objectives, work organization and the agents’ motivation are built and revised” (Hatchuel et al., 2002, p. 34).

The alternative approach for knowledge management, we propose, considers the challenge of vertical learning in complex systems like health systems, concretely between “production” organizations and regulatory bodies. It is precisely the coordination of knowledge dynamics of these actors that makes this vertical learning possible. If numerous works have analyzed “coordination” issues, between CoP, for example, by studying the role of boundary objects (Fox, 2011), these works have essentially studied horizontal learning processes. Vertical learning issues are in our view specific because they oblige us to question the role of authority. We argue in our article that the strategy of “laissez faire” CoP is ineffective in terms of
learning optimization. Therefore, we agree with some authors (Bourhis & Dubé, 2010) who consider that the success of CoP requires structuring spontaneity and thus mobilizing management practices such as taking actions to develop a knowledge sharing culture, providing resources to CoP, and monitoring leadership to address any occurring problems.

Saying that, our proposition goes further: Structuring spontaneity means in our view to limit the autonomy of CoP through the utilization of prescription. We distance also ourselves from the managerial vision of Wenger, McDermott, and Snyder (2002), suggesting means to cultivate communities of practice: design for evolution (to help the community develop; for example, institutionalizing the role of community coordinator), open a dialogue between inside and outside perspectives (bringing information from outside community), and invite different levels of participation (knowing that people have different levels of interest). Our reflection is a little different: We argue in our article that it is more question of “constraining” CoPs than of cultivating, knowing that the two perspectives are not mutually incompatible.

Finally, we argue in our article that the alternative approach for knowledge management we propose transcends the mechanistic and organic approaches because it takes simultaneously into account two requirements: The need to prescribe for learning coordination and the social nature of learning, anchored in action.

According to some observers, the promulgation of learning through organizational structures runs counter to the nature of the processes of creating knowledge, which require autonomy and creative chaos (Hartley & Benington, 2006). Although creativity and autonomy play a key role in facilitating learning and adapting to contingencies and policy requirements, they are insufficient to bring about radical change in practices.

Our approach underlines the contribution of structures in the creation of meaning. Vlaar, Van den Bosch, and Volberda (2006) also show how formalization facilitates interorganizational understanding as a product but also as a process, through four mechanisms: the focusing of attention, the clarification of deliberation processes, the maintenance of interaction, and a reduction of individual biases. As structuration theory states, structures are simultaneously constraining and empowering (Giddens, 1984). Similarly, we agree with Jeannot (2005) who argues that it is pointless to oppose formal frameworks that are invariably overly rigid and local innovators who always become exhausted. Rather, one should seek an alternative that creates synergy between the autonomy granted to the actors and the mechanisms available to them, with the objective of fostering individual and organizational learning.
Through the analysis of an experience in performance management, we have seen that rationalization modes favorable to learning dynamics in an innovative context are designed and implemented according to a particular logic and are similar to weak prescription-based relationships (Hatchuel, 1996). Our approach does not seek to implement best practices but rather to develop the ability to enact useful practices (utility is linked to the adaptation of practices to the specific context of the activity (Orlikowski, 2002). These rationalization modes are coherent with the nature of knowledge-based organizations, like health care organizations, given that knowledge development requires strong contextualization.

The emphasis on rationalization may call into question the importance of informal processes, based notably on relationships of trust, in the production of knowledge, as suggested by Addicott et al. (2006). This question is especially relevant for the health care sector, bearing in mind that the need for trust stems from uncertainty inherent in clinical processes. We do not think that rationalization represents an obstacle for the development of trust. Recent writings on the governance of complex systems (Tenbensel, 2008) advance that multiple governance methods, including “networks” and the “hierarchy,” are useful. Our case study confirms this position. We have seen that the recourse to the authority of the regional board during the implementation of the cancer care networks in Quebec has been necessary to make organizational learning possible. Therefore, there was a need to rely on “reflexive authority” (Hoogenboom & Ossewaard, 2005) that characterizes postmodern institutions.

Reflexive institutions might owe their authority to their capacity to organize social criticism and to accommodate reflexive action through the provision of data flows from which the actor is enabled to form an interpretation of his situation. In reflexive organizations, the commitment and empowerment of members result not from a policy of community building but from collective doubt in the merits of how things are organized (Hoogenboom & Ossewaard, 2005, p. 616).

Here again, we emphasize the positive potential of power and authority. Nonetheless, power relationships can harm learning processes, given that knowledge is a key source of power (Crozier, 1964; Mechanic, 1962), especially in professional organizations. This reflects the paradoxical nature of power. Further thought should be given in future research to these issues.

Hatchuel (1994) asserts that the analysis of political dynamics needs to be closely linked to the analysis of cognitive dynamics and rationalization modes of collective action. This proposition invites further reflection on knowledge management issues, as we have done in this article. A deeper understanding of learning dynamics in health care settings requires us to go beyond Hatchuel’s work, which essentially concerns project management contexts in industrial
settings. Learning through prescription-based relations is more problematic when actors are highly autonomous (as is the case for health care professionals). This issue also warrants further research.

Finally, a more systemic view on learning issues should be adopted. Research in the neo-institutional stream indicates that organizations are open systems whose dynamics are closely linked to those of their institutional field (Scott, 1995). This perspective is hardly present in research on organizational learning and knowledge management (Currie & Suhomlinova, 2006).

Some research specifically illustrates the impact of the characteristics of the institutional field on the dynamics of knowledge in organizations. This impact occurs essentially through three types of mechanisms: regulation mechanisms, which refer notably to governmental performance appraisal policies; normative mechanisms (socialization mechanisms, training paths and career structures); and cognitive mechanisms that favor (or not) collaboration between the actors. All of this research focuses on the embeddedness (Granovetter, 1985) of organizational activities in relationships operating in an institutional field, which can take several forms, that is, cognitive, cultural, political, and structural. Furthermore, the research considers this embeddedness to be a constraint to learning and change. Yet, growing numbers of studies are inverting the reasoning and showing how embeddedness can also offer an opportunity (Dacin, Ventresca, & Beal, 1999; Reay, Golden-Biddle, & Germann, 2006) for change. Such embeddedness opens windows of opportunity for action. For example, Reay et al. (2006) illustrate the way in which certain middle managers in the health care system who have a thorough knowledge of the context have innovated through microprocesses similar to a small win strategy. Their knowledge gives them the ability to pinpoint the right time and place to experiment with and highlight institutional contradictions. Thus, “instead of theorizing a world in which institutions are completely taken for granted and actors are incapable of independent action, scholars should theorize agency and institutional context as independent but intertwined” (Reay et al., 2006, p. 978).

In practical terms, to support learning processes, synergy should be created between internal changes and change that occurs at other levels in the institutional field. As the case study illustrates, it is difficult to create synergy at the local level. It is more advisable to act gradually in response to the opportunities present, while anticipating that local changes made will gradually contribute to change the institutional field and to support learning.

Clearly, more multilevel analysis is required to better understand learning issues in highly institutionalized fields.
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