

EGOS 2026 - Sub-theme 44: Reconciling Systems Theories and Approaches to Organization Studies

Full-paper title: Organizational pathways through uncertainty: innovative healthcare organizations building autonomy through interdependencies

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1. Introduction

In the health sector, systems and organizations have been widely recognised as characterised by their inherent complexity (Lamarche et al., 2024; Sturmberg, 2019). Some authors refer to these systems and organizations as complex adaptive systems (CAS), which “have coherent dynamic units that interact with each other and are able to evolve to organize themselves relative to their environment” (Ratnapalan & Lang, 2020).

In this context, innovations and attempts to bring about change in organizations are accepted as non-linear processes with highly unpredictable outcomes (Angeli & Montefusco, 2020). There is no shortage of innovations in the health sector to address the many challenges facing the sector: the integration of new technologies, the changing profile of patients, the strengthening of primary care and the expansion of nursing roles. The literature on these subjects shows the extent to which the deployment of these innovations remains partial, with unexpected effects or contrary to the initial objectives (Denis et al., 2025). However, to inform decision-makers, research must be able to shed light on the pathways of these innovations in all their uncertainties.

This paper will examine the case of ‘nurse-led clinics’ (NLCs) deployed in the province of Quebec, in Canada since December 2022. If the deployment of this type of organization is not new at a global scale, it represents a regional rupture. The paper will seek to understand the

trajectory of NLCs, as a case of organizational innovation. Doing so, the analysis will bring some elements to answer these questions: how an organizational innovation derives from its initial model? What explain the direction it takes? As part of a larger system, we hypothesize that the innovation trajectory depends on interactions with other organizations in the healthcare system. The analysis of a large body of empirical material will be based on several notions from Luhmann's theory of social systems (Luhmann, 2010). In line with the questions raised in the call for papers, the analysis will demonstrate the contribution of concepts derived from systems theory to shed light on a process of organisational innovation in local and regional areas characterised by a high degree of complexity. We begin by presenting below the case study: the development of nurse-led clinics and their opening in the province of Quebec.

2. Organizational innovation in healthcare

2.1. Nursing role development and its organizations

Role of advanced practice nurses (APN) has expanded and diversified significantly over recent decades (Wheeler et al., 2022). Their importance in addressing the challenges facing healthcare systems is increasingly recognised (Swan et al., 2015). Among the most frequently mentioned obstacles to their implementation, the lack of clarity surrounding the contours of its role and place in the healthcare system remains predominant (Aghnati et al., 2021; Aguilard et al., 2017). The study of a specific variation of the APN, the primary health care nurse practitioner (PHCNP), showed its exercise in the healthcare system is marked by fragility (Côté et al., 2019).

To support nursing roles development and address the issue of access to primary care, multiple organizational models are spreading around the world (Unsworth et al., 2024). Among the various models discussed in the literature, NLCs stand out as one of the most widespread organizational spaces where the role of APNs is supposed to be most central. They often appear in regions where APNs role is already well-established. NLCs are supposed to enable APNs to practise nursing in its fullest scope (Pu et al., 2024; Shiu et al., 2012). NLCs share several common elements: nurses practise autonomously and in different interprofessional settings (Terry et al., 2024; Wong & Chung, 2006). Alongside these common elements, other factors vary: general or disease-specific patient populations, single- or multi-professional settings, location within the healthcare system.

The literature on these clinics has mainly focused on two aspects: their implementation and their performance. Studies on their performance tend to attribute convincing results to them on several types of indicators, such as patient clinical outcomes or patient satisfaction (Connolly

& Cotter, 2023). These same reviews struggle to point to such convincing results on the issue of access to healthcare. Implementation studies identify various key factors: resource-related, individual, and interprofessional factors. Finally, the partnerships formed by NLCs with organizations in their environments are implementation factors that must be considered (Damschroder et al., 2022; Pennington et al., 2020). This last factor remains poorly documented. We know even less about what happens through these partnerships. We still know little about how NLCs integrate into their environments. The issue is, however, particularly acute for organisations that are largely newcomers and have to find their place within an already established healthcare system.

2.2.NLCs' deployment as a complexity problem

The arrival of NLCs is an innovation with uncertain outcomes. Despite high expectations, none of the proponents of this innovation could have foreseen the scale, the range of services and the level of integration achieved six months or a year later. As said, the healthcare system and its organizations can indeed be considered as CAS, one of whose properties is the unpredictability of its developments (Ratnapalan & Lang, 2020). Contrary to an approach focused solely on the organization or an evolutionary perspective, authors have shown that the performance of healthcare organizations (HCO) is the result of the interdependence of the organization and its environment (Lamarche & Maillet, 2016). HCO cannot be oriented or fixed neither by focusing solely on its intra-organizational characteristics and functionings nor by imagining that the HCO could present an optimal and unique image in a given, clearly defined, environment. These statements invite us to take a more serious look at a central concept in the analysis of HCOs: their complexity (Lamarche et al., 2024; Sturmberg, 2019). Several notions from Luhmann's theory of social systems are useful in achieving this (Luhmann, 2010).

Complexity arises when systems have too many elements to be able to relate to each other. This state gives rise to the necessity of selectivity, which is not, much to the chagrin of governing actors, always or completely imposed from outside. Even if NLCs launching was framed by a political-led framework, its relative vagueness could not have steered strictly how each NLC was going to cope within its local and multifaced environment. The necessity of selectivity is coupled with a state of contingency: the relationships between the elements of the system, i.e. the NLC and other organizations in its environment, could always be different (Luhmann, 2010). The situation facing the healthcare system, even when considered within relatively small areas, is one of contingency. Not all of HCOs can be connected. The relationships between organizations in the healthcare system vary according to the possibilities of what the literature

commonly refers to as ‘interorganizational collaboration’ (Karam et al., 2018; Keyton et al., 2008).

In this paper, we hypothesise that this phenomenon, interorganizational collaboration, is not peripheral; we start from the assumption that the relationships between an organization and other organizations in its environment are indicative of and contribute to its development pathway. Indeed, as organizations, NLCs are social systems whose specificity is to communicate on the basis of decisions (Luhmann, 2018). Decisions to establish a relationship with another organization, or conversely to refuse it, or to define its specific terms, indicates the *difference* between a specific NLC and another HCO. On the one hand, NLC’s decisions indicate their boundaries, which act as both a separating and connecting element (Luhmann, 2021). The traces of these decisions reflect the perpetual updating of the boundaries that each organization must maintain. On the other hand, NLC’s decisions provide information on the organization self-descriptions’ which “serves the system as “official culture of remembrance”, which can be communicated without any problem; and “without any problem” means without concern for whoever perceives it, in other words, whoever perceives it publicly. This requires only vague, unconceptualized notions of system identity » (Luhmann, 2018). At the same time, the communication of decisions within the context of inter-organisational collaboration draws on organisational memory and helps to build it. The analysis of the NLC case will seek to demonstrate how these theoretical assumptions about the links between decisions, self-descriptions, boundaries and memories shape the concrete direction of organizational innovation pathways.

3. Methods

3.1. Case study

The province of Quebec has been rolling out PHCNP Clinics, a type of NLC, since 2022 (Rioux-Dubois et al., 2025). Such clinics represent major organizational innovations for the healthcare sector in the province. Since the 1960s, the Quebec health system has sought to better integrate the social and health sectors (Gaumer, 2006). It is undergoing major front-line reforms, including a significant centralisation of services within Integrated (University) Centres for Social and Health Services (CISSS/CIUSSS). In December 2022, the Quebec government decided to allocate budget to the CISSS and CIUSSS that decided to open several NLCs. The opening period coincided with a critical period of emergency services congestion, in a region where there has been a long-standing problem with access to primary care. A reference

framework was released a few months later to officially determine the scope of these clinics (Arpin & Coulombe, 2024). It sets a wide range of objectives for the NLCs, from providing multiple entry points into primary care to the training of future PHCNPs and the development of autonomous nursing practice, whilst promoting interdisciplinary collaboration and offering a holistic approach to patient health.

3.2.Data collection and analysis

Eighty-two semi-structured interviews were conducted in eight clinics in the province of Quebec. The interviews took place in three separate rounds, between March 2023 and January 2026, allowing us to observe the evolution of NLCs over time. The notation following the interview extracts indicates the time of collection (T), the case (S), and the participant's number within the case (P). Data collection from managerial, administrative, and clinical profiles provided information on NLCs' external partnerships in various aspects (their formalisation and their day-to-day consequences). At first, the analysis was conducted inductively based on the central hypothesis of the importance of relationships between organizations to understand their development pathway. Open coding was performed on interview excerpts addressing the general issue of inter-organizational relationships. In a second time, further developing the theoretical framework above, the coding was conducted in a more axial way (Glaser & Strauss, 1999).

4. Preliminary results

The ongoing analysis reveals three main phenomenon which contribute to the understanding of development pathways of NLCs.

4.1.Increasing complexity of relationships

The analysis shows a general trend towards greater complexity in inter-organizational relationships, even though the new NLCs could have been limited to one or two relationships, as they were at their beginning.

“The fact that we are providing more care means that there is also a little more collaboration with registered nurses because we are monitoring more chronic diseases. (...) We also have, but we're going to start this soon, a nurse who will begin monitoring ADHD with the mental health nurse specialist. In fact, I said it would take three years to finish developing, but that may not be the case after all, because we're adding things all the time” T3 – S1 - P1.

The general trend among the various NLCs is towards increasingly complex relationships with organisations in their environment. These relationships are established either in response to the expectations of other organisations (to establish inflows of patients, for example for patient groups that the requesting organisation does not currently know how to manage), or to the needs of the NLC itself (to establish outflows of patients, through referrals to specialists for example), or in response to requests from the administrative hierarchy of the CISSSS of which the NLCs form part (for example, to address a shortage of resources in another department of the CISSSS). The diverse origins of these developments are undoubtedly a key factor in understanding the uncertain nature of innovation trajectories. The organisation's development is not driven solely by the intentions of a single, clearly identified entity, challenging our theoretical conception that it is the organisation that determines its relationships. The notion of decision, if understood solely through the prism of a strong will exercising choice amongst clearly identified options, may fail to account for what NLCs actually do when establishing their relationships. They navigate diverse expectations, fulfil the mandates assigned to them, and make choices in the absence of alternatives.

“We’ve got two pharmacies, so if we can’t manage to reach service agreements with those two, well, we’ve got no choice but to find ways to work together (...) Then there’s the fact that people registered individually with a GP practice say, ‘I can’t get an appointment with my doctor because it’s too complicated.’ So, in the end, we’ll end up turning to the PS clinic as well; we’re not necessarily ruling them out, but I think we need to give this some thought. We might not quite be at the stage yet of deciding how we want to structure things, because at the same time we mustn’t kid ourselves: if we take on everyone, well, at some point we won’t be able to provide the quality of care we want to offer. You know, how do we set the boundaries, how do we really get to grips with this, thinking about, you know, who we take on and who we don’t?” T1 – S4 - P4.

Despite this, as the extract shows, people within the NLCs themselves are very aware of the issues underlying the increasing complexity of their relationships. The interviewee here questions the quality of care that the decision to enter a specific relationship with a Medecine Family Group (GMF) will enable them to maintain. To the interviewee, the explicit criterion of decision, which could act as a premise of decision, regarding the development of complexity is the quality of care they provide, which remains a notion that could take various acceptations locally. The diversity of the objectives set out above leads to a significant lack of clarity (both regarding which notions to prioritise (e.g. quality, accessibility, autonomy) and their specific

content) concerning the premises on which partnership decisions should be based. Whilst the increase in complexity may be seen as inherent to innovation in an environment in which so many organisations operate, the trajectory of this increase does not appear to be fully under control, in the absence of sufficiently well-established decision-making criteria. Thus, the pathway of innovation remains an unpredictable, emergent, phenomenon. The selectivity of interorganisational relationships remains rather contingent:

“Well, we’ve recently had a new trainee join us here at the IPS clinic; she’s come from a refugee clinic, so she already has some previous experience. She gave us a presentation, shared her knowledge and told us about the Asylum Seekers’ Integration Programme, which is an organisation that wasn’t really well known here, even though we were seeing... this particular group of clients. So we’re making more and more use of it.” T2 – S5 - P5

The trend towards greater complexity allows NLCs to absorb the uncertainties associated with multiple expectations and move towards greater autonomy for the organization. As our material shows, relationships are formed based on various expectations: population access, care, development of the nursing role, and opportunities for ‘self-sufficiency’. Faced with the changing weight of these expectations, the relationships adaptation makes it possible to treat events that are external to the NLC (e.g. a decision by the ministry, the wishes of the organization's workers, a request from the supervisory organization) as information for the NLC. Thus, these unexpected events are treated as differences for NLCs interrelations. They make it possible to absorb decisions external to the organization, to juggle sometimes contradictory objectives (e.g. increasing population accessibility and to register a clearly defined group of patients), or to remain an attractive workplace (e.g. by providing nurses with the sort of patients they enjoy working with). The complexity that has developed – even in the absence of clearly defined decision-making criteria – makes it possible to evolve one’s service offering without any sharp break, by gradually adapting the relationships that have been built with others.

4.2. Standing as an organization, not as the environment: struggling for autonomy

The phenomenon of increasingly complex relationships contributes to the possibility for NLCs to position themselves. The ongoing analysis shows that newly established organizations face a major challenge: not simply being the environment (the non-self) of other organizations, which is inherently undetermined and chaotic. NLCs’ complexity (which patients they accept,

under which conditions, for how long, how, by whom, and to what extent they are treated) must make sense to other organizations.

"We have to take paediatrics out of this department, but where can we put it? We're kind of like the CISSS's dustbin, where can we put things... (...) We won't ask the physicians, but there's the NLC. Like the chronic pain clinic (...) Doctors don't want to touch that in family health team because, in our environment, we don't have the resources. (...) Oh well, "we'll put it in the NLC"! (...) That's right, we're being called on from all over the place. In the autumn, it was psychiatry that wanted (...) we have homeless people here, in fixed accommodation, so the homeless, who don't have insurance? "Oh right, we'll send them to the NLC"" T2 – S4 - P3.

NLCs must be able to set their own boundaries. As the collected material shows, initially, organizations in the NLC environment tend to view NLCs as the other side of *their own difference*: 'if it's not us, it's them'. However, NLCs cannot be the entire environment of others. They must develop selective complexity, like any social system, and not be chaotic, like an environment. The failure of other systems to perceive the specific difference of NLCs, or rather the perception of difference only in terms of difference from themselves, prevents new organizations from fulfilling their specific function. Our material includes several illustrations, where collaboration with another organization was made impossible by a failure to take into account the difference and internal complexity of the NLC. For example, several cases encountered difficulties in maintaining a working relationship with the emergency departments, which they were nevertheless supposed to relieve. The main reason cited was that the system for triaging patients according to the P1 to P6 severity scale did not correspond to the way the NLCs operated. The referral of P5 and P6 patients to the NLCs failed to take into account the fact that, whilst these patients were not necessarily the most suitable for an emergency department, they did not automatically become suitable for the NLCs either. Attempts were made to make adjustments, but these were not particularly successful, leading in some cases to the suspension of the collaboration. The specific difference of the NLC had not been considered.

Thus, in all these relationships, the organizational system of the NLC struggles for its autonomy: for the recognition of its own boundaries - even though the original framework does not clearly set any out. All decisions made relating to the selectivity of relationships daily update the complexity of the network and the uncertainty surrounding innovation; everyday contributing to a *negotiated inter-organisational order*.

"We had meetings with the First Line Access Point (GAP) (...) What can the GAP refer to a PHCNP clinic? You know, we gave them a reference guide. But there's an open channel. They can write to each other in real time, on Teams. They write to each other: "can you see this type of patient? Would you be comfortable?" Then, you know, we keep it alive, and that's how knowledge is transferred (...) For questions about patient eligibility. Questions about... We're fine-tuning eligibility a little bit, the types of referrals to make." T1 – S8 - 1.

In contrast to the previous example involving certain emergency services, several cases highlight the possibility of almost immediate coordination with a key partner, the GAP. As the extract shows, an open communication system was, in this instance, put in place to enable a case-by-case assessment of whether a patient fell within the NLC's remit or not. This exchange enables the NLC to determine, on a daily basis and in very practical terms, what falls within its remit and what does not. Beyond a very general presentation of the NLC as a place providing access to care, high-quality care, the development of nursing practice, and a fallback solution for minor emergencies, the NLCs have here the opportunity to describe themselves in a way that, although partial, is much more contextually specific. Each decision made by the NLCs carries information that is intended to position them: to not be 'the dustbin of the CISSS [other organizations surrounding the NLC]'. As our material shows, the relationships forged by the NLCs are not limited to solving logistical, technical, or clinical problems. Each of these relationships contributes to the sharing of the NLCs' self-description and affirmation of their difference. This is illustrated above by the problem of being merely the flip side of the specific differences found in another organisation. It is also illustrated by the problem of indifference – the pitfall of being assimilated to an organisation without our specific characteristics being recognised.

"I feel a bit of pressure about that, I'd say. And I know my manager feels that pressure too – that she has to justify every month why the figures aren't high enough because we've got an old issue or something like that. And I know that the specialists sometimes see as many as 12 patients a day. It's not at all the same kind of quality of care that we expect from an PHCNP, in the sense that it's... Compared to the medical side, we know they run on a 15-minute schedule, and patients barely expect to be given a cursory check-up. Yes, yes. A cursory check-up, like, 'Oh no, you're fine, you're all right, thank you, goodbye.' We don't do that, and it's not at all in line with nursing practice. So, you definitely feel this pressure to have good statistics, which, for the moment, we don't

have. Our manager is really, really great about it, but I know that eventually, things will have to speed up.” T2 – S5 - P7.

The innovation represented by NLCs is being rolled out within a healthcare system in which organisations are compared and evaluated. There are expectations placed on each of these organisations, which are supposed to vary according to their remit. The interviewee in the extract above highlights a fear of indifference on the part of external observers of the NLC. All this concern is reflected here in the issue of consultation times, and therefore the number of patients one can be certified as having seen in the course of a day. An organisation that is not assessed in the light of its own specific characteristics would undoubtedly be the result of a public self-description that does not work.

“My fear would really be, like, OK, the PHCNP clinic is supposed to have a certain percentage of this, that and the other, and that leaves no room for projects that are really interesting and relevant. Then we’d just become another GMF without a doctor. Like, I don’t want to be a cheap GMF. I’d perhaps like to be a community clinic based on services and the sort of things we can do (...) I don’t want to become a GMF.” T2 – S5 - P4.

“You know, then we heard about it, and sometimes they were even compared to IPS trainees who saw more patients than an IPS nurse in the IPS clinic. We had to explain it, because, you know, the trainee, as such, is supported by a supervisor and a doctor, and she works with a comprehensive case file, whereas with an orphan, well, it’s like starting from scratch. It’s always like that. Even for a GP, an orphan is... or a new patient – that’s an hour. That’s it. So, you know, a detailed understanding of the role here, and of the clinic’s mission – perhaps we need to keep working on that.” T2 – S8 - P1

This potential pitfall manifests itself in a refusal to be, or to become, a GMF – that is, another type of primary care clinic. Yet the comparison is regularly drawn, both by professionals and in public statements regarding NLCs. One of the issues is the number of patients seen per day – as mentioned earlier – which could serve as a simple indicator for comparing their contribution to the healthcare system. Yet, as the NLCs point out, this masks their distinctive features: the complexity of the patients seen, the number of first appointments, and the biopsychosocial approach to patient health. These are a few key points from the NLCs’ current self-description which, depending on how they choose to position themselves, will shape the future direction of these clinics. Interestingly, managers have a key role in fostering and defending one self-

description or another. As our material shows, some of them go to great lengths to adjust and present the figures they are required to submit, so that the mere reporting of the number of patients seen per hour of opening does not become a factor in the reorganisation of the NLCs.

The ability of NLCs to continue their development and to shape their complexity in accordance with criteria specific to their professional context (rooted in a model of nursing, holistic healthcare and interdisciplinarity) will undoubtedly depend on the extent to which they are able to communicate their self-descriptions, and thus their distinctiveness. This will involve day-to-day interactions, such as those described above with the GAP or emergency departments, but also a strategic dialogue to equip them with their own evaluation criteria, tailored to their specific characteristics. Both processes will play a key role in shaping the trajectory of these innovations.

4.3. Innovation pathways shaping memory

The affirmation of self-descriptions, addressing the issue of the other's difference and indifference, leads the NLCs into an exchange with the organisational memory of the local health network.

“I think there was a certain misconception, I'd say, that the NLC would be autonomous. But... The clinic is part of the CISSS. We have obligations. We have to take our internal and external partners into account. Take physiotherapy, for example. If we have issues within the rehabilitation department, we'll look into them with them. I think there was a bit of – I'd dare say – that disappointment that the clinic didn't have unlimited autonomy. You know, it all fits into the context of the CISSS, the strategic direction, and the range of care and services on offer. Then we have to tie all that together, you know, but... Yes, with the culture and the structure that was already in place.” T1 – S4 – P1.

The extract explicitly highlights an issue that has been overlooked by certain of NLCs promoters: the launch of an organisational innovation cannot be envisaged without considering the context into which it will be integrated. The CISSS provides a specific framework, but more generally speaking, any network into which one becomes part already possesses a form of organisational memory. This memory holds records of who does what, for whom, how, with whom, and to what end. The establishment of a new organisation necessarily takes place within this context; it cannot ignore this memory; at no point can the NLC come in to work within a sort of 'zero history group'. Finding one's place within it requires coming to terms with the existing organisational memory. Consequently, communication is complicated at the outset,

until a new way of sorting things out emerges. A key point in this regard is the repeated historical comparison made by interviewees when discussing the NLCs. Their introduction into the healthcare system is compared to that of the CLSCs in the 1970s or contrasted with the way GMFs have operated over the last decade. In their discussions, the NLCs must situate their operations and their *raison d'être* in relation to an 'already in place' that may impose limitations. To succeed in innovating, it is this memory that must be tapped into. And communication between social subsystems contributes to this, through the decisions they ratify each time they manage to communicate.

5. Conclusion [I would like to apologise to readers for the lack of discussion at this stage of the article's preparation.]

The deployment of an organizational innovation such as NLCs cannot be conceived without considering the pre-existing network of organizations, which they transform rather than complement. The initial results of the analysis show this transformation through the pathways of organization in complexification, autonomy building, and differentiation through interdependencies. The results directly engage with the central process of differentiation which are observed in other fields (Ashcraft, 2024; Maaijen et al., 2018). They engage us in understanding the innovation pathway as a non-hierarchical coordination process between HCOs. They pave the way for a detailed understanding of what could be a sort of "multi-level governance" (Touati et al., 2019). It could contribute to organizational sociology in understanding in greater detail the development of organizations that are increasingly required to operate as networks; the discussion of these results could provide insights into what are described as 'self-organised inter-organizational networks' (Rhodes, 2025).

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