


Developing a living lab in ethics: Initial issues and observations

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Abstract

Living labs are interdisciplinary and participatory initiatives aimed at bringing research closer to practice by involving stakeholders in all stages of research. Living labs align with the principles of participatory research methods as well as recent insights about how participatory ways of generating knowledge help to change practices in concrete settings with respect to specific problems. The participatory, open, and discussion-oriented nature of living labs could be ideally suited to accompany ethical reflection and changes ensuing from reflection. To our knowledge, living labs have not been explicitly trialed and reported in ethics literature. In this discussion paper, we report and discuss four initial issues that marked the process of setting up a living lab in ethics: (1) determining the goals and expected outcomes of an ethics living lab; (2) establishing operational procedures; (3) selecting communities and defining pilot projects; and (4) adopting a lens to tackle emerging questions and challenges. We explain these four issues and present the paths taken based on the novel and specific orientation, that is, living ethics, at the basis of this project. In alignment with living ethics and É-LABO, we approach challenges as learning opportunities to ask not only “how” questions but also “why” questions. We hope that this discussion paper informed by our experience helps to

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clarify the theoretical, methodological, and practical approaches necessary to successfully adopt and employ living labs in ethics.

KEYWORDS

É-LABO, health ethics, living ethics, living lab, participatory research, pragmatism

1 | INTRODUCTION

Living labs are interdisciplinary and participatory initiatives that aim to bring research closer to practice by involving stakeholders in all stages of research. The European Network of Living Labs, one of the primary associations of living labs, defines them as “user-centered open innovation ecosystems based on a systematic user co-creation approach, integrating research and innovation processes in real-life communities and settings.”¹ Living labs are a kind of research methodology with specific steps and a resolute orientation toward co-creative research in real-life settings. They are referred to as “ecosystems” because they are intended to induce collaborative exchanges to support innovation within real-world settings. Living labs align with the principles of participatory research as well as recent insights about how participatory ways of generating knowledge help change practices in concrete settings with respect to specific problems.² Initially developed at the MIT in the context of information technology and technological innovation, living labs have now been implemented in various fields such as urbanism, agriculture, health, technology, and environment as a promising participatory way to engage and foster innovation.³ They have in common the aspiration of bringing the research process in real-world settings to fuel innovation and the co-production of tailored solutions. Although technological development was the initial focus of living lab initiatives, public services have also been targeted, as seen in the wide range of activities of the European Network of Living Labs.⁴

There are many features of living labs that could be appealing to health ethics research and practice. Living labs focus on real-life environments, include stakeholders, and use collaborative methods to innovate and address problems.⁵ Contextual and participatory research approaches, like living labs, are also sensitive to the nature and dynamics of the environments in which these matters arise. These attributes, notably the participatory, open, and discussion-oriented nature of living labs, make them, in principle, ideally suited to accompany ethical reflection⁶ and changes in healthcare subsequent

to ethical reflection.⁷ Indeed, ethics (e.g., ethics research projects, ethics services) typically tackles tasks involving moral problem identification, solution-oriented discussion, and learning,⁸ tasks that are consistent with most understandings of the key steps of living lab methodology.⁹ Moreover, moral experiences concern values embedded in social practices and personal existences and are thus potentially accounted for by living labs as a stakeholder-oriented research approach.¹⁰ Overall, living labs align with recent proposals calling for greater involvement of stakeholders in the form of participatory bioethics¹¹ and ethics dialogue¹² or deliberative wisdom,¹³ building upon them and providing a means to enact them.¹⁴ Accordingly, living labs are promising for addressing issues in health ethics research and practice.

To our knowledge, living labs have yet to be explicitly trialed or reported in ethics literature. While the ethics laboratory reported by Knox¹⁵ resembles a living lab, it focuses on ethical deliberation as it attempts to establish “a cross-sectoral and interdisciplinary forum for collaborative investigation on important moral topics”¹⁶ with little to no emphasis on finding or enacting practical solutions, an inherent feature of the living lab methodology. Living labs could help researchers and collaborators pursue key ethics tasks (e.g., identifying moral problems, deliberating about responses to moral problems, enacting changes in response to moral problems) as they have been employed in other settings to tackle a wide range of practical problems (e.g., evaluating innovative dementia care, developing green

¹Hossain, M., Leminen, S., & Westerlund, M. (2019). A systematic review of living lab literature. *Journal of Cleaner Production*, 213, 976–988.

²Ibid.

³Ibid.

⁴For an overview of various types of living labs, see European Network of Living Labs. (n.d.). *Living labs*. <https://enoll.org/network/living-labs/>

⁵Hossain, M., et al., op. cit. note 1.

⁶Although often undistinguished and etymologically synonymous terms derived from Latin and Greek, respectively, we use the terms “moral” and “morality” to designate the more implicit habits that structure and guide our lives, while we reserve the term “ethics” to designate the structured and explicit reflection on moral habits and moral life. Hence, ethics takes moral life as its object of inquiry and is thus a science of this domain of human life.

⁷Hartman, L., Inguaggiato, G., Widdershoven, G., Wensing-Kruger, A., & Molewijk, B. (2020). Theory and practice of integrative clinical ethics support: A joint experience within gender affirmative care. *BMC Medical Ethics*, 21(1), 79.

⁸Miller, F. G., Fins, J. J., & Bacchetta, M. D. (1996). Clinical pragmatism: John Dewey and clinical ethics. *The Journal of Contemporary Health Law and Policy*, 139(1), 27–51.

⁹Widdershoven, G., Abma, T., & Molewijk, B. (2009). Empirical ethics as dialogical practice. *Bioethics*, 23(4), 236–248.

¹⁰Evans, P., Schuurman, D., Stahlbrost, A., & Vervoort, A. (2019). *Living lab methodology handbook*. European Network of Living Labs.

¹¹Abma, T. A., Voskes, Y., & Widdershoven, G. (2017). Participatory bioethics research and its social impact: The case of coercion reduction in psychiatry. *Bioethics*, 31(2), 144–152.

¹²Montreuil, M., Bogossian, A., Laberge-Perrault, E., & Racine, E. (2021). A review of approaches, strategies and ethical considerations in participatory research with children. *International Journal of Qualitative Methods*, 16(2), 237–248; Montreuil, M., & Carnevale, F. A. (2018). Participatory hermeneutic ethnography: A methodological framework for health ethics research with children. *Qualitative Health Research*, 28(7), 1135–1144.

¹³Abma, T. A., et al., op. cit. note 10.

¹⁴Widdershoven, G., et al., op. cit. note 8.

¹⁵Racine, E. *The theory of deliberative wisdom*, forthcoming.

¹⁶Racine, E., Ji, S., Badro, V., Bogossian, A., Bourque, C. J., Bouthillier, M.-È., Chenel, V., Dallaire, C., Doucet, H., Favron-Godbout, C., Fortin, M.-C., Ganache, I., Guernon, A.-S., Montreuil, M., Olivier, C., Quintal, A., Senghor, A. S., Stanton-Jean, M., Martineau, J. T., Talbot, A., & Tremblay, N. (2022). Living ethics: A stance and its implications in health ethics. *Research Square*; Racine, op. cit. note 13.

¹⁷Knox, J. (2023). The ethics laboratory: A dialogical practice for interdisciplinary moral deliberation. *HEC Forum*, 35, 185–199.

¹⁸Ibid.: 3.

urbanism).¹⁷ The living lab methodology focuses on solution generation and experimentation with changes in practice. Thus, it is a promising approach to explore and to test participatory models of collaboration and intervention in ethics, notably given ongoing challenges in bringing ethics into the service of practice and the dire state of implementation and evaluative research in ethics.¹⁸

2 | DESCRIPTION OF THE LIVING LAB AND THE PROCESS FOR ISSUE IDENTIFICATION

In this discussion paper, we (Montreal Clinical Research Institute [IRCM] executive team and É-LABO scientific team; see Table 1) report and discuss four initial issues that marked the process of setting up what is, to our knowledge, one of the first living labs in ethics, É-LABO, in which we are involved (see Box 1). These issues are (1) determining the goals and expected outcomes of an ethics living lab, (2) establishing operational procedures, (3) selecting communities and defining pilot projects, and (4) adopting a lens to tackle emerging questions and challenges. These issues are the focus of the four sections of this article. In each section, we describe the specific issue at stake as well as our own responses (the executive and scientific teams; see Table 1) to it stemming from the efforts to actualize the living lab methodology and to make it a useful tool for health ethics in the context of two pilot projects involving patients and healthcare providers (see Box 1). The thinking and writing process of the IRCM executive team and É-LABO scientific team was structured as an exercise in collective meaning-making to describe our research activities as well as our reflection on them and our learning from them following other similar published collective writing processes.¹⁹ The observations and discussions took place informally in the executive team and more formally in the scientific team meetings where the manuscript was developed based on successive rounds of drafting, commenting, and refinement.

The four issues were identified based on our experience and observations in the course of developing a living lab in ethics. In other words, this manuscript is based on actions taken and self-reported observations (reported in the past tense) and ongoing reflections of the group of scholars and stakeholders (reported in the present tense) involved in setting up a first living ethics lab. The issues are reported here as they were experienced at the time of writing the article at phase 0 of both pilot projects.

The narrative, deliberative, and open-ended nature of our manuscript reflecting the ongoing learning and experimentation process of the

living lab also corresponds to the philosophical aspirations guiding this project. Although ethics living labs could be inspired by various philosophies, É-LABO is rooted in philosophical pragmatism²⁰ and is inspired by *living ethics*, an approach that stresses the importance of capturing how moral problems are experienced by stakeholders and supports stakeholders in addressing these problems through dialogue and learning (for further details on living ethics, see Box 2). The living ethics stance is not a new form of normative ethics per se, but builds from the user-centered orientation of pragmatist ethics to ask and propose how ethics can support human flourishing and experiential moral learning in concrete ways.²¹ Living ethics is a stance initially developed locally (in Québec) and is currently undergoing an international co-development process to expand its scope with the involvement of a group of international scholars. It seeks to respond to a wide array of health ethics problems. Beyond the specific context and epistemological orientation of our project grounded in pragmatism and living ethics, living labs are expected to gain momentum as the living lab methodology gains support from funding agencies and institutions.²² Thus, we hope that this article helps clarify the theoretical, methodological, and practical approaches necessary to successfully adopt and employ living labs in ethics beyond the specific pragmatist orientation of É-LABO that is a feature of É-LABO but is not a condition for all ethics living labs.

3 | DETERMINING THE GOALS AND EXPECTED OUTCOMES OF AN ETHICS LIVING LAB

Initial considerations: As a type of collaborative research methodology, living labs can support a number of potentially meaningful ethical goals such as shedding light on moral matters²³ and facilitating the discussion and resolution of these sensitive matters. Thus, one of

²⁰Aiguier, G., & Cobbaut, J.-P. (2016). Chapitre 1. Le tournant pragmatique de l'éthique en santé: Enjeux et perspectives pour la formation. *Journal international de bioéthique*, 27(1-2), 17-40; Miller, F. G., et al., op. cit. note 8.

²¹Racine, E., et al., op. cit. note 14; Racine, E., Cascio, A., Montreuil, M., & Bogossian, A. (2019). Instrumentalist analyses of the functions of ethics concepts: A proposal to bridge conceptual and empirical ethics methodology. *Theoretical Medicine and Bioethics*, 40, 253-278; Martela, F. (2015). Pragmatism as an attitude. In U. Zackariasson (Ed.), *Action, belief and inquiry: Pragmatist perspectives on science, society and religion* (pp. 187-207). Nordic Pragmatism Network: Helsinki; Martela, F. (2017). Moral philosophers as ethical engineers: Limits of moral philosophy and a pragmatist alternative. *Metaphilosophy*, 48(1-2), 58-78; Racine, E., Kusch, S., Cascio, M. A., & Bogossian, A. (2021). Making autonomy an instrument: A pragmatist account of contextualized autonomy. *Humanities and Social Sciences Communications*, 8(1), 139.

²²There are, looking only in Quebec and Canada, numerous living lab projects supported by Canadian and Quebec funding agencies: Fonds de recherche du Québec. (2021). *Améliorer le soutien des personnes proches aidantes de personnes âgées: L'approche laboratoire vivant*. <https://frq.gouv.qc.ca/projet/ameliore-le-soutien-des-personnes-proches-aidantes-de-personnes-aines-lapporte-laboratoire-vivant/>; Fonds de recherche du Québec. (2021). *Projet MOSAIC: Laboratoire vivant avec, par et pour les personnes âgées des milieux ruraux*. <https://frq.gouv.qc.ca/projet/projet-mosaic-laboratoire-vivant-avec-par-et-pour-les-personnes-aines-des-milieux-ruraux/>; Fonds de recherche du Québec. (2021). *Faire de la recherche autrement*. <https://frq.gouv.qc.ca/faire-de-la-recherche-autrement/>; Social Sciences and Humanities Research Council. (2022). *Knowledge gaps in evaluating the effectiveness and impacts of Living Labs focused on environmental and agricultural sustainability*. https://www.sshrc-crsh.gc.ca/society-societe/community-communite/ifca-iac/evidence-briefs-donnees_probantes/earth_carrying_capacity-capacite_limite_terre/nguyen-eng.aspx.

²³Quintal, A., Hotte, É., & Racine, E. (Under review). Morality as experienced: A scoping review of moral matters encountered by adults living with rare diseases. *Philosophy, Ethics, and Humanities in Medicine*.

¹⁷Brankaert, R., den Ouden, E., & Brombacher, A. (2015) Innovate dementia: The development of a living lab protocol to evaluate interventions in context. *Info*, 17(4), 40-52; Bulkeley, H., Coenen, L., Frantzeskaki, N., Hartmann, C., Kronsell, A., Mai, L., Marvin, S., McCormick, K., van Steenberghe, F., & Voytenko Palgan, Y. (2016). Urban living labs: Governing urban sustainability transitions. *Current Opinion in Environmental Sustainability*, 22, 13-17.

¹⁸Sisk, B. A., Mozersky, J., Antes, A. L., & DuBois, J. M., (2020). The "ought-is" problem: An implementation science framework for translating ethical norms into practice. *The American Journal of Bioethics*, 20(4), 62-70.

¹⁹See similar process followed in Racine, E., et al., op. cit. note 14; Racine, op. cit. note 13.

TABLE 1 Key components of É-LABO.

Component	Description and role	Main aim involvement (see Figure 1)
IRCM Executive Team	The IRCM executive team consists of the laboratory director, the research coordinator, and the research assistants. This team supports the realization of the laboratory's activities.	Aim 1 Aim 2 Aim 3
Scientific Team	The scientific team is comprised of 9 members of the scientific community particularly interested in the laboratory's approach. This team provides scientific and methodological guidance to define and reflect on the direction of É-LABO. It includes experts in qualitative and participatory methodology, patient partners, ethicists, and healthcare professionals.	Aim 1 Aim 2
External Advisory Board	The external advisory board consists of 12 key opinion leaders in the domains of health, patient partnership, business, academia government, and communication. These members are engaged in thinking about potential opportunities for the living lab development and are informed of updates during annual conferences.	Aim 3
Pilot Project #1 Research Team	The research team of the first pilot project is composed of the IRCM executive team and 4 stakeholders (healthcare professionals and patients) who are co-researchers from the IRCM clinic, a tertiary care research clinic (see Box 1).	Aim 2
Pilot Project #2 Research Team	The research team of the second pilot project consists of the IRCM executive team and 5 stakeholders (healthcare professionals) who are co-researchers from the intensive care unit of Hôpital Maisonneuve-Rosemont (see Box 1).	Aim 3
Living Ethics Community	Since É-LABO stems from a prior community-based participatory group-reflection effort to develop the concept of living ethics (see Box 2), we hope that all people involved in É-LABO as well as members of the public interested in the project will come together to form a <i>living ethics community</i> . To support this, a monthly newsletter will be published, and public events organized.	

the first questions that we (the IRCM executive and scientific team members) are encountering is to determine the goals and desired outcomes of É-LABO as a living lab, and of both pilot projects conducted through É-LABO (see Box 1).

Discussion and paths taken: As a living lab, É-LABO pursues social innovation by addressing morally problematic situations experienced by patients and healthcare professionals and by developing and testing creative solutions to overcome these issues. More concretely, within both pilot projects conducted through É-LABO, stakeholders will have the opportunity to reflect on their moral concerns and address them openly through a participatory research process. By enabling this, we envision that É-LABO can help create ethical spaces²⁴ in healthcare settings and assess whether ethics can inspire and support innovative changes within a community by mobilizing the experiential knowledge of stakeholders.

This general goal and related expected outcomes follow, on the one hand, from the innovative nature of living labs that encourage open ideation about lived problems and subsequent experimentation with solutions and, on the other hand, from their user-centric approach. The latter emphasizes the importance of designing and conducting research with the very people it is intended to benefit in order to be more responsive to their needs. At the same time, since

living lab initiatives resemble participatory action research as they involve extensive participation of stakeholders, co-development, and co-learning,²⁵ how we envision a living lab in ethics is also influenced by the tenets of participatory action research, which further underscore the benefits for stakeholders to be actively involved in the research process and solutions generation. Therefore, É-LABO not only seeks to generate innovative and tailored solutions to morally problematic situations experienced by patients and healthcare professionals but also to ensure that this open experimentation process empowers stakeholders regarding the ethical dimensions of their lives as they invest themselves in the co-development of potential solutions that could help them face the problems they deem important. É-LABO should thus help open ethical spaces and process, and create moments for open discussion in these specific communities. This is of particular interest for ethics, where the creation of such spaces and moments is often difficult.²⁶

Our discussions and analysis of local healthcare contexts lead us to hypothesize that, as a living lab, É-LABO could foster social innovation by bringing “ethical oxygen” into a given group or community, that is, by introducing inquiry-based ethics processes in environments that may be less accustomed to such deliberative exercises. Three general aims follow from these general goals and

²⁴Walker, M. U. (1993). Keeping moral space open new images of ethics consulting. *The Hastings Center Report*, 23(2), 33–40; Hamric, A. B., & Wocial, L. D. (2016). Institutional ethics resources: Creating moral spaces. *The Hastings Center Report*, 46(1), 22–27.

²⁵Carson, T. R., & Sumara, D. J. (1997). Action research as a living practice: Peter Lang. *Participatory Action Research*.

²⁶Walker, op. cit. note 24; Hamric & Wocial, op. cit. note 24.

BOX 1: É-LABO, a living laboratory in ethics.

É-LABO is a living lab funded partially by the Fonds de recherche du Québec-Santé and mostly from the Quebec ministry of Economy and Innovation through a special competition organized in partnership with the Montreal Clinical Research Institute (IRCM), an interdisciplinary biomedical science institution that has hosted the longest-standing tradition of Canadian bioethics research (since 1976). É-LABO is guided by a scientific team composed of ethics researchers, patient partners, and healthcare professionals. The lab is operated by an executive team, based at IRCM, composed of a director, a coordinator, and research assistants (see Table 1). An external advisory board constituted of key opinion leaders in the domains of health, business, academia, and communication/media is informed of updates and is engaged in thinking about potential opportunities for the living lab's development. Given the funding received to support this project, two pilot projects have been retained. The first project tackles the issue of psychological distress at the IRCM clinic—a research intensive tertiary care clinic—in order to mitigate patients' suffering. The second project deals with appropriate levels of care within the intensive care unit of Hôpital Maisonneuve-Rosemont in the wake of the Covid-19 pandemic. Initial terms of reference of the É-LABO have been proposed and endorsed by the scientific team. The project is rooted in and inspired by the development of living ethics (see Box 2), a concept developed to promote local collaboration and development toward experience-based and adaptive ethics. More details on É-LABO can be found at: <https://www.pragmatichealthethics.ca/project/living-ethics-laboratory-e-labo/>

expected outcomes, namely, (1) the creation and development of É-LABO; (2) the operationalization of the living ethics approach in two social innovation pilot projects; and (3) the critical evaluation of the É-LABO experience as well as the funding strategy and long-term deployment strategy.

While being hopeful about the benefits of living labs, we are also mindful that the participatory nature of the entire exercise that represents a living lab will bring forth features of flexible and participatory organizational culture that may clash with the rather hierarchical and rigid work culture prevailing in (but not unique to) the Quebec health and social services system within which É-LABO operates.²⁷ Indeed, the outcomes of dialogical processes such as

those fostered by living labs may be deeply needed and desired, but the actual process can be challenging. Engaging openly on moral matters is often difficult because of the personal and deeply entrenched nature of the values and practices at stake in specific situations.²⁸ Moreover, there is often a lack of time or opportunity for such engagement. Such is the case for topics such as appropriate levels of care in intensive care units (ICUs),²⁹ a topic that will be addressed through one of the pilot projects (see Box 1). Therefore, the pilot projects should help create local spaces for open communication, reflexivity, and self-learning among stakeholders. Since the living lab methodology implies a researcher-participant relationship that takes distances from the traditional idea of experts,³⁰ we envision that as the stakeholders deliberate and learn from these exchanges, the research team will also learn, allowing for the co-construction of scientific knowledge with stakeholders. Ideally, once a pilot project is officially over, there should remain sustainable learnings beyond the focus of a specific project, such as new habits of mutual understanding, deliberation, and so on within the environment in which the stakeholders are situated. Ideally, the lessons learned from É-LABO—beyond the knowledge gained by those directly involved—would influence research practices in the healthcare environment and lead to further participatory research initiatives driven by the experiential knowledge and moral experiences of stakeholders.

4 | ESTABLISHING OPERATIONAL PROCEDURES

Initial considerations: Up to this point, we have referred to the living lab methodology as a monolithic category. However, living lab methodology encompasses a wide variety of methods and practices.³¹ Although living labs share some key characteristics, there is no singular living lab methodology or unique terms of reference. Accordingly, the general methodology of living labs needs to be adapted to the specific contexts and specific research purposes for which it is employed. This leaves room for creativity and innovation but also brings forth questions about how a living lab should operate (e.g., leadership, governance, advisory committees), how it should be funded, and how living lab experiments should be chosen.

Gouvernement du Québec; Commission d'étude sur les services de santé et les services sociaux [ou Commission Clair] (2000, décembre). *Les solutions émergentes. Rapport et recommandations* (p. 411). Gouvernement du Québec; Ministère de la Santé et des Services sociaux (2022, mars). *Plan pour mettre en œuvre les changements nécessaires en santé* (p. 79). Gouvernement du Québec.

²⁸Walker, op. cit. note 24.

²⁹Hiler, C. A., Hickman, R. L. Jr., Reimer, A. P., & Wilson, K. (2018). Predictors of moral distress in a US sample of critical care nurses. *American Journal of Critical Care*, 27(1), 59–66.

³⁰Inguaggiato, G., Metselaar, S., Widdershoven, G., & Molewijk, B. (2019). Clinical ethics expertise as the ability to co-create normative recommendations by guiding a dialogical process of moral learning. *American Journal of Bioethics*, 19(11), 71–73; Metselaar, S., Molewijk, B., & Widdershoven, G. (2015). Beyond recommendation and mediation: Moral case deliberation as moral learning in dialogue. *American Journal of Bioethics*, 15(1), 50–51.

³¹For an overview of living labs methodologies and practices, see Hossain, M. et al., op. cit. note 1; Evans, P., et al., op. cit. note 9.

²⁷Numerous governmental inquiries have highlighted this problem: Commission d'enquête sur les services de santé et les services sociaux [ou Commission Rochon] (1988). *Résumé: Le rapport de la commission d'enquête sur les services de santé et les services sociaux* (p. 30).

BOX 2. Living ethics.

Moral questions are vital questions because they concern what is esteemed to be the best choice, the best action, and, ultimately, the best life to live. Despite this, current stances in ethics often fall short of concretely fostering human development and flourishing. This context led to the co-development of a “living ethics”—a participatory and situated stance in ethics—by a group of Quebec scholars, patients, clinicians, and clinical ethicists. Living ethics designates a multifaceted stance in ethics that stresses that ethics research and practice should be connected to the moral life of stakeholders and support their moral growth through open and deliberative processes.¹⁴ This orientation aims to democratize ethics, that is, to move ethics from a field often considered to be abstract, removed, and more or less helpful, into a more useful tool that allows for expression of lived difficulties and seeks to find solutions to them. Living ethics sidesteps a dominant focus on ethics *know that* (e.g., what are key principles, what are key aspects of human flourishing) to also grant attention to ethics *know how* (e.g., what practices enact important ethical principles, how do we foster human flourishing). In other words, this stance aims to bring the moral experiences of people into focus and show that ethics is a tool that enhances the understanding and navigation of such experiences. Living ethics bears specific theoretical, methodological, and practical implications in various areas of health ethics activity such as clinical and organizational ethics, health policy and public health, health ethics research, and learning and teaching health ethics. For more details on living ethics, see Racine, E., et al., op. cit. note 14. É-LABO is one of first exercises undertaken to explicitly enact, explore, and evaluate a living ethics stance.

One particular issue surfaces during our discussions regarding the orientation guiding the practices and activities of É-LABO. Drawing inspiration from living ethics (see Box 2), this question can be formulated as how É-LABO embodies and enacts a living ethics approach where participation and learning are of paramount importance. This initial question grows in complexity as we try to determine the level of participation and involvement of our scientific team in the pilot projects such that they would have all the information necessary to evaluate the outcomes of É-LABO and engage meaningfully with the projects. Since we are tackling sensitive topics in these projects (i.e., psychological distress and appropriate levels of care), we are also unsure about how much information could be shared with members of our scientific team who, for the most part, are not part of both pilot project research teams.

Discussion and paths taken: We envision the development of É-LABO, including the terms of reference guiding its operations, as an iterative process in keeping with living ethics that calls for experiential moral embeddedness and an outlook focused on ethics learning and adaptation.³² This learning orientation, and related practices of co-creation and co-ownership,³³ prompts us to conceive the development of the organizational structure of É-LABO following the pragmatist corkscrew model,³⁴ namely, as the product of both linear or continuous as well as iterative learning and engagement between everyone involved in the various aspects of the project (i.e., the IRCM executive team, the scientific team, the external advisory board, both project teams, and the public) (see Figure 1). The current terms of reference (available online at: https://drive.google.com/file/d/1lwaKapC-cyKJo60s9_gVspAoLmhtEy6/view) describe a number of core ideas and features on how the lab would operate based on our review of literature on living labs in various settings and discussions with our scientific team.³⁵ They briefly outline and describe how the three general aims of the project (see the section above) will be pursued. We agree that these simple and initial terms of reference will evolve as we learn from the scientific development of É-LABO and from the two pilot projects. Therefore, the terms of reference of É-LABO will be revisited in the second year of operation of the lab based on the learnings made. Nevertheless, the initial terms of reference provide a strong and flexible foundation to build upon as we move forward with the project. The IRCM executive team is also undertaking periodical reflective, learning, and debriefing meetings where time is taken to identify what is working well, what is not, why, and so forth³⁶ in order to make relevant adjustments to the project and its operational procedures.

Thus far, the participatory and learning orientation is proving to be a fruitful and engaging *modus operandi*. For example, the writing of the current article—developed as a collaboration between the IRCM executive team and the scientific team—was a unique opportunity to reflect on and openly discuss how É-LABO can be operationalized in practice. It brought members to reflect on the vision of the living lab, the ethical approach driving it, the objectives aimed for, and the outcomes sought. The scientific team and the IRCM executive team are deeply involved in the thinking processes underlying the operations of É-LABO, although only the IRCM executive team deals directly with the stakeholders of both living lab experiments. At this point in the project, active engagement with stakeholders is limited as we are awaiting ethics approval to proceed with recruitment for both projects. However, the initial consultation phase that we have conducted prior to formal project initiation, a phase that we have called “phase 0” (see Figure 1), allows us to engage with patients and

³²Racine, E., et al., op. cit. note 14.

³³Hartman, L. et al., op. cit. note 7.

³⁴Miller, F. G., et al., op. cit. note 8.

³⁵More details on the current terms of reference of É-LABO can be found at: <https://www.pragmatichealthethics.ca/project/living-ethics-laboratory-e-labo/>

³⁶During these meetings, the MRCI executive team discusses and reports thoughts and observations on (1) favorable conditions for the emergence of a living lab in ethics; (2) best practices to adopt; (3) lessons learned; and (4) any other relevant knowledge resulting from this experience.

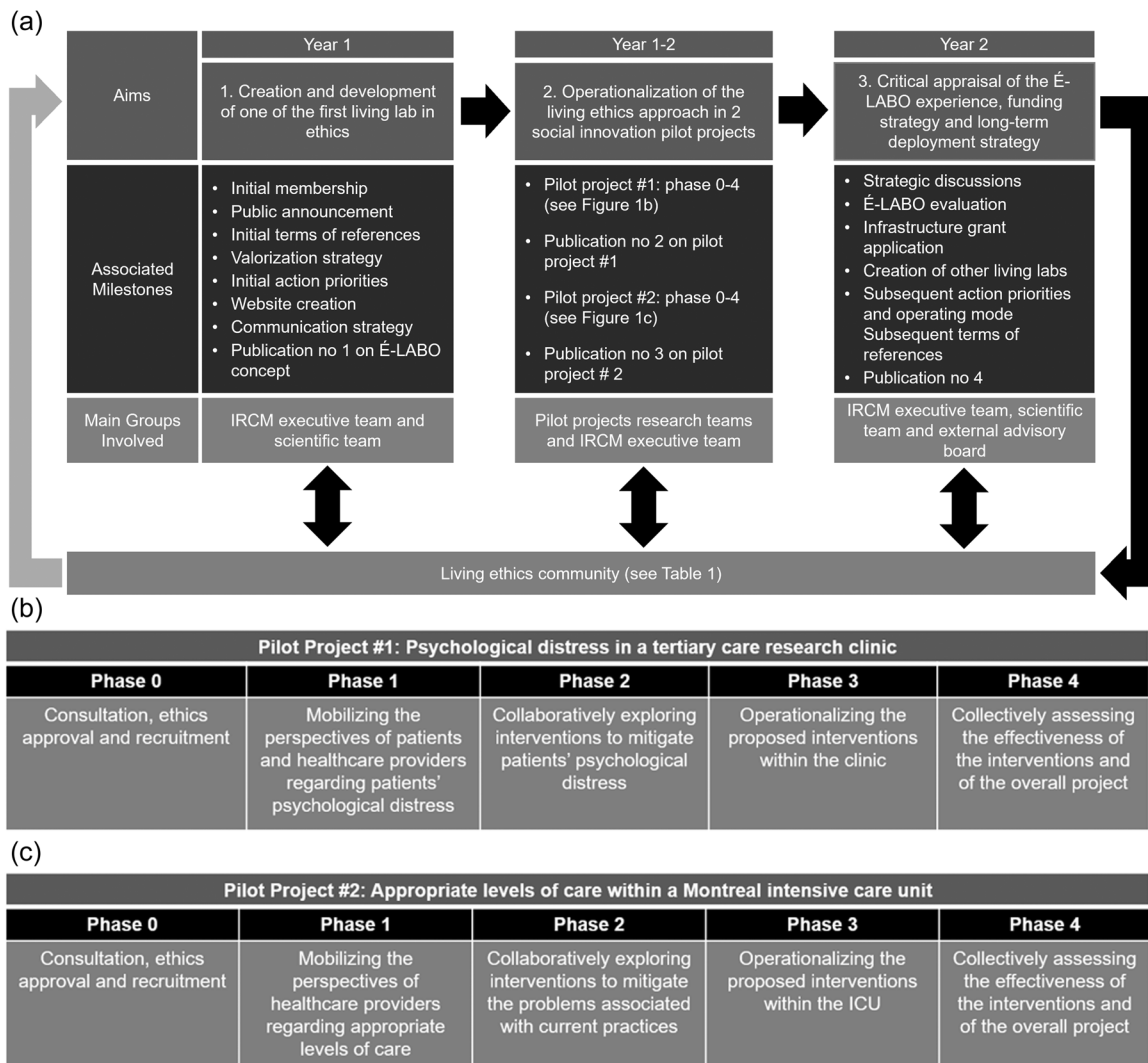


FIGURE 1 (a) Development process of É-LABO and associated pilot projects. (b) Pilot project #1: Psychological distress in a tertiary care research clinic. (c) Pilot project #2: Appropriate levels of care within a Montreal intensive care unit.

healthcare providers who may participate in both projects. As a result, some people have already signified their interest to participate in both projects and the rather iterative and progressively defined community structure of the living lab has been helpful to stimulate the confidence and enthusiasm of those involved.

Additionally, beyond the case studies reporting the two pilot projects, we have yet to determine a communication strategy for sharing the moral learnings realized throughout this project. We are contemplating organizing an initial event dedicated to living ethics where all committees, stakeholders, and members of the public are able to meet and exchange to form a sense of community. We are also considering ways of upgrading our current webpage to a full website dedicated to É-LABO, where more news and information could be posted in addition to the É-LABO newsletters. We are learning that being attentive to the needs and interests of those involved is paramount in such initiatives and that these should inform the paths taken and decisions made.

5 | SELECTING COMMUNITIES AND DEFINING PILOT PROJECTS

Initial considerations: The living lab approach preferably involves an open process for the selection of the pilot projects that will be conducted within such an initiative.³⁷ Ideally, research priorities are established following broad and open public consultations aimed at identifying communities that are experiencing significant moral problems that a living lab like É-LABO could tackle. Project development will also follow a collaborative process between the IRCM executive team and a given community. Given the focus on participation, inclusion, human flourishing, and human development,³⁸ people who do not commonly have the possibility to express their moral concerns should be primary beneficiaries of a living lab exercise, as is often the case in participatory action research.

³⁷Evans, P., et al., op. cit. note 9.

³⁸Racine, E., et al., op. cit. note 14.

Discussion and paths taken: As a small initiative, we concur that É-LABO needs to settle for modest goals in comparison to more demanding and ideal open consultation processes. For example, current research funding models often grant limited timelines (e.g., 2 years in our project), making it difficult to include the community at large in the selection and development process for research projects. The context in which É-LABO emerges prevents us from carrying out a vast and open project selection process. Moreover, grant programs typically require having settled the goals and methods of a project before funding can be awarded. The lack of familiarity with living labs also limits the ability of potential collaborators to recognize their value and get involved early on. Given these and many other constraints as well as being a small-scale investigator-initiated project in an academic institution, we are developing both pilot projects within clinical communities that expressed interest in our approach during the grant proposal stage. For example, the IRCM clinic, with whom we are conducting our first project, had previously expressed interest in collaborating with our scientific team and with leaders in patient partner research (e.g., Centre of Excellence for Partnership with Patients and the Public [CEPPP]). When we approached this clinic with our living lab initiative, meetings were quickly organized with leaders of the IRCM clinic. Likewise, the second project is an offshoot of an unsuccessful tri-national grant (Canada–Germany–USA) proposing to develop participatory-action research on moral distress in ICUs. Given the local momentum around the topic and the expressed desire of a local ICU to engage in such participatory research, the opportunity was offered to these colleagues to remodel this project idea to the living lab model. Although these processes evolved differently than anticipated, this led to engagement of healthcare professionals and, in the first project, the engagement of patients treated at the IRCM clinic. As for the constitution of the scientific team, we also benefit from a previous interdisciplinary process of engagement on living ethics from which this project directly builds from.³⁹

To define the projects with both communities, we conducted prior consultations during “phase 0” (described above). This is allowed under Canadian research ethics oversight to help qualitative researchers identify research questions and fitting research methods. We consulted people with various profiles (e.g., physicians, receptionists, nurses, patients) to develop a comprehensive understanding of the organizational contexts of each environment. This exercise reflects the eco-systemic and naturalistic orientation of living labs. We found these conversations extremely helpful. They allowed us to co-develop project goals with stakeholders and assess what kind of methods we could use in context-sensitive ways. As a result of these conversations, we have come to identify two moral issues that É-LABO will tackle in each project: patients' psychological distress (pilot project 1) and the ambiguity surrounding appropriate levels of care (pilot project 2). This phase 0 can be described as a dialogical and co-learning process through which stakeholders learn about the living

ethics approach while the IRCM executive team learns how to make sense of these moral experiences and engage with stakeholders. We believe that this co-creative process of meaning and understanding helps foster stakeholders' trust and confidence in the process and is thus a good investment for the quality of the next steps.

6 | ADOPTING A LENS TO TACKLE EMERGING QUESTIONS AND CHALLENGES

Initial considerations: At this stage of the project, we do not yet have a comprehensive picture of the questions and challenges that may be faced in carrying out the two pilot projects and running the É-LABO. Already, we are encountering a wide range of (1) epistemic and methodological questions (e.g., regarding the standards living labs should follow), (2) ethics outcomes and research ethics questions (e.g., on how to measure the impact of an ethics living lab),⁴⁰ and (3) practical questions (e.g., about the maintenance of commitment of participants throughout the process) (see Table 2 for sample questions). Many questions are similar to those that arise in participatory action research and partnered research (e.g., how to engage stakeholders meaningfully, how to open up and make accessible the research process with which most of the people participating are unacquainted and with which we are familiar).⁴¹ However, the open and dynamic nature of living labs is rather unique and creates additional potential challenges (e.g., how to communicate with stakeholders, how to foster motivation for involvement in different phases of the experiments; see Table 2).

Discussion and paths taken: In the face of questions and challenges, different attitudes can be adopted. Keeping in mind the learning and participatory orientation of É-LABO, we approach challenges as learning opportunities. Facing questions, even more practical questions, is an opportunity to ask not only “how” questions but also “why” questions. So far, this manifests itself saliently in two areas: (1) defining and agreeing upon the goals and process of pilot projects with the stakeholders of these projects and (2) sorting out how to frame and oversee the project from a research ethics perspective.

6.1 | Defining and agreeing upon the goals and process of pilot projects with stakeholders

By its very nature, a living lab in ethics is concerned with deeply human and existential matters. These can sometimes be difficult to

⁴⁰Given that the goals and outcomes of the two projects are not settled yet, we do not have settled outcomes for their evaluation. However, we plan to adopt a participatory form of evaluation (e.g., responsive or participatory evaluation (Abma, T. A. (2005). Responsive evaluation in health promotion: Its value for ambiguous contexts. *Health Promotion International*, 20(4), 391–397; Metselaar, S., Widdershoven, G., Porz, R., & Molewijk, B. (2017). Evaluating clinical ethics support: A participatory approach. *Bioethics*, 31(4), 258–266.) where both the processes will be evaluated as well as the actual outcomes of the interventions trialed as part of these two studies.

⁴¹Montreuil, M., Martineau, J. T., & Racine, E. (2019). Exploring ethical issues related to patient engagement in healthcare: Patient, clinician and researcher's perspectives. *Journal of Bioethical Inquiry*, 16(2), 237–248.

³⁹Ibid.

TABLE 2 Examples of emerging questions related to development of an ethics living lab.*Epistemic and methodological questions*

- How can we share about the process, and the knowledge thereby gleaned, while accounting for their embedded nature?
- Will more narrative forms of reporting about the projects be needed and will this be an effective strategy to communicate about the projects?
- How will we account for and report the learning process occurring during the project?
- What will be the limitations of the two projects and what lessons can we learn from them?

Ethics outcomes and research ethics questions

- How will we assess the impact of the research process on the moral growth (if any) of participants?
- Will the pilot projects have lasting, durable impacts on how people identify and discuss moral problems or find creative solutions to their moral problems and enact them?
- Will stakeholders find the process helpful or challenging? And if so, what will elicit the most benefits and stressors?
- Will the precautions that we have taken be sufficient to avoid undue discomfort while discussing sensitive aspects of the stakeholders' work life?

Practical questions

- Will we be able to overcome misunderstandings about ethics and create a sustainable and credible connection to stakeholders' experiences?
- Will participants develop a connection with the pilot projects and contribute actively to different phases of the project?
- Will the pandemic situation, which partly reinforces the need for open communication and collaborative research, jeopardize our plans?

articulate.⁴² Therefore, the identification of issues (what we refer to as “phase 0” in the previous section) is a crucial part of the project. This requires open discussion with stakeholders on the morally problematic situations that they encounter. However, identifying and discussing these situations is not an easy task. We encountered initial challenges in finding a mutual understanding of ethics with stakeholders when discussing their moral experiences. The formal vocabulary related to ethics (“ethics,” “moral issue,” “value,” “principles,” etc.) tended to generate discomfort, perplexity, and confusion among the stakeholders we consulted. For instance, when discussing the focus and goal of the pilot projects, many stakeholders asked us to define ethics and to clarify what constitutes a moral issue. Having open and in-depth discussions with stakeholders about their moral concerns was thus challenged by these initial vocabulary discrepancies.⁴³

We took this seemingly practical problem as an opportunity to ask questions about why stakeholders were responding and reacting in these ways and how we could reorient the project to connect to their experiences. For example, we trialed a few strategies to initiate effective initial conversations about pilot projects (e.g., introducing

the history of the initial development of É-LABO, presenting É-LABO following a more conventional background-objective-methodology format, and providing examples of health ethics issues that we are addressing in other research projects). So far, the most promising and effective strategy is to avoid ethics jargon and to stress the practical contributions of our project in ways that make sense to stakeholders (i.e., allowing stakeholders to talk about sensitive issues, improving the working environment and patients' satisfaction as a result of deliberation, etc.). Meeting stakeholders separately at the beginning also allowed us to talk about and shape the projects while keeping in mind various individual experiences and expectations. There may be other ways to facilitate communication on ethical issues with stakeholders, but this open and participatory approach is particularly helpful to us in the context of our project. It stresses that the living lab is an opportunity to create ethical spaces,⁴⁴ that is, spaces where moral concerns can be shared in confidence and discussed constructively with the aims of improving well-being (e.g., at work or regarding one's health condition) insofar as human moral life is part of professional life, patient life, and so on.

Equally challenging, some healthcare providers reacted negatively to the complexity of the issues addressed through the pilot projects (i.e., patients' psychological distress and the ambiguity surrounding appropriate levels of care), considering them as insoluble human matters. In fact, one nurse reported that a challenge faced by critical care workers is the difficult relationship of patients' families to death. In the face of such concerns, the living ethics orientation of É-LABO is potentially helpful; it calls for the connection of the entire initiative to matters that are intimately tied to existential questions that take the form of genuine doubts and anxieties. Therefore, the ethics process envisioned (e.g., the explicit recognition of values, moral problems and of their impacts) could help create a context in which addressing the issues at stake is possible. To do so, ethical knowledge is used as a tool—in the spirit of pragmatist and hermeneutical approaches—insofar as this vocabulary and knowledge help make sense of lived moral experiences.⁴⁵

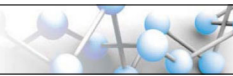
In addition to the difficulties associated with the very nature of ethical issues that we are trying to address, ensuring ongoing and genuine collaboration with busy and overburdened clinicians is another related challenge, given that moral concerns require appropriate time and spaces to be communicated. Therefore, we are trying to meet with stakeholders at the most convenient time and place for them and to adapt our message for their lived preoccupations. For example, in order to present the two pilot projects to all members of each project team following individual consultations, the IRCM executive team created short videos that were presented during their weekly team meeting. The goal was to gather feedback from all ICU personnel before submitting the protocol to the

⁴²Walker, op. cit. note 24.

⁴³Aiguier, G., & Loute, A. (2016). L'intervention éthique en santé: un apprentissage collectif. *Nouvelles pratiques sociales*, 28(2), 158–172; Martela, F., et al., op. cit. note 21. Racine, E. (2022). How ethics liberates experience: Insights from pragmatist theory and contemporary research. *Journal of Speculative Philosophy*, 36(4), 517–536.

⁴²Walker, op. cit. note 24.

⁴³Callahan, D. (1973). Bioethics as a discipline. *Hastings Center Studies*, 1(1), 66–73.



Research Ethics Board (REB) in order to ensure that the project adequately targets their needs and concerns. Since it is impossible to gather everyone at the same time, the IRCM executive team attended the meetings of the three work shifts (the day, evening, and night crew) and shared the short video by email to the few people who were absent. Additionally, after each consultation with stakeholders, the IRCM executive team quickly shares a short summary of the planned actions following our discussion to instill the action-oriented aims of our initiative. The idea is to quickly steer discussions toward concrete actions in order to generate rhythm and momentum. Therefore, the IRCM executive team acts to make knowledge sharing accessible and dynamic in order to connect with stakeholders.

6.2 | Sorting out how to frame and oversee the project from a research ethics perspective

Like any publicly funded research project involving human participants in Canada, ethics review and approval of our project are required. Of equal, if not greater, importance is the active involvement of stakeholders throughout the research process, in alignment with the living ethics orientation espoused and the living lab methodology itself.

At this stage of the project, we are awaiting approval from our REBs in order to proceed with both pilot projects. We are currently attempting to obtain acceptance of, and leeway for, the evolving nature of a living lab process where openness (e.g., about interview questions, specific interventions selected for trial) is seen as a justified strength. However, such openness conflicts with the strict adherence to a defined protocol often sought—and in a sense required—by REBs to ensure clarity about research goals, participation information and consent, and mitigation of risks. Although we have adopted similar strategies in participatory action research before, which are consistent with the proportionate approach promulgated in Canadian research ethics guidelines and its description of qualitative research,⁴⁶ we are hoping that an amend-as-we-move-forward approach will be accepted by our REBs. This will also require amendments to be treated in a timely fashion such that we can progress while maintaining good collaboration with our REBs and ensuring safe and informed participation for the stakeholders. So far, the collaboration between the IRCM executive team and our REBs is excellent; the REB has shown support and interest in our projects. We esteem that such relationships are an important facilitator for the achievement of tailored and responsive ethics oversight and appear to be at this early stage a condition of success of an ethics living lab.

⁴⁶Panel on research ethics, Government of Canada. (2018). *Tri-council policy statement: Ethical conduct for research involving humans—TCPS 2. Chapter 10: Qualitative research*. https://ethics.gc.ca/eng/tcps2-eptc2_2018_chapter10-chapitre10.html

7 | CONCLUSION

There is a broad interest in developing greater engagement and participation in ethics processes such that learning and self-development are part of tackling specific moral problems. In this respect, living labs represent a compelling methodology to engage stakeholders in various steps of the research process and facilitate the development and adoption of innovation, including ethical and social innovation. É-LABO is a living lab project exploring ways of instilling a living approach to ethics such that ethics research processes are designed in a way that translates ethics to a living reality for the stakeholders we collaborate with and the contexts that they inhabit. Therein, participation and learning are of paramount importance as guiding orientations. We (the IRCM executive team and the scientific team) have shared four issues that marked the process of setting up of one of the first living labs in ethics (to our knowledge) as well as the paths taken in response to these issues. As previously mentioned, É-LABO is an evolving and learn-as-we-go process. Setting out and operationalizing this process call us to venture from usual habits, thus raising numerous epistemic, ethical, and practical questions (see Table 2) that we cannot tackle in a single paper, especially at the onset of this project. Yet, it is perhaps this unsettledness that helps fuel energy and creativity in the process. We hope to report on the learning process in the next few years and to publish case reports on the initial pilot projects carried out through this living lab with the aims of informing others interested by the living lab experience and tackling some of these emerging questions.

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