

Designing for Co-Production in a Territorial Lab for Mental Health¹

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ABSTRACT

This article delves into the co-production of mental health services involving informal actors, patients, and healthcare providers, focusing on the potential of territorial laboratories as experimental spaces for co-producing recovery-oriented services. It examines the CoLab Torre Cimabue in Brescia (Italy), where mental health and well-being services are co-produced at the community level, engaging users, family members, local actors, and service providers. Thematic analysis of CoLab Torre Cimabue interviews revealed seven key dimensions, highlighting the role of territorial labs in supporting mental healthcare co-production with informal resources. These dimensions include informal settings and resources, real-life and recovery-oriented experimentations, tangible and welcoming spaces, horizontal and equitable relationships, exchange of information and service continuity, omnichannel communication and promotion, and urban regeneration and participation. While the co-design process fostered collaborative approaches, pivotal factors—Time, Value, Participation, Co-design, Scale, Space, and Attitude—emerged as critical for mental healthcare co-production. They suggest a gap between service design and delivery phases, indicating the need for transformative impact generation. The research underscores the importance of actively engaging informal resources in mental healthcare co-production, from service design to delivery phases.

Keywords: Co-Production, Informal Care, Mental Health, Service Design

INTRODUCTION

Mental healthcare requires caregiver's knowledge and skills as well as physical and mental abilities (Leng et al., 2019). Social relationships (e.g., family, friends, or neighbors) (Martani et al., 2021; Broese et al., 2016), together with volunteers and informal organisations play a significant but informal role in mental healthcare; informal care is driven by a commitment to community or family values, loyalty, reciprocity, and emotional bonding (Finkelstein & Brannick, 2007; Skinner et al., 2021). Volunteers and informal caregivers can be considered fundamental co-producers in service delivery, offering dedication, time, and valuable information (Winter et al., 2019).

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Recovery and co-production (Ostrom, 1996) are developing as global synergistic paradigm in mental health services. These concepts align with trends in patient-centred and community-based care, personalized interventions, and user participation in defining health and social sector service guidelines. Recovery originated from mental health service users sharing their journeys from illness to recovery in the 1970s-1980s (Chamberlin, 1988). From these accounts, researchers studied the qualifying elements of personal (instead of clinical) recovery paths, involving a rediscovery of life's meaning and hope despite symptoms or limitations due from a mental concern (Anthony, 1993; Leamy et al., 2011). Co-production, that promotes an active participation of users to the design and delivery of services, reinforces the Recovery principles that give value to the experiential knowledge and local resources of people with lived experience and their ecosystem.

Adopting a recovery and co-production approach in mental health services necessitates a cultural transformation. Within this transformation, informal care can play a significant role, complementing and compensating for services that healthcare providers may not be able to offer (Martani et al., 2021; Broese et al., 2016; Gulati & Puranam, 2009). Co-production with informal care provides fresh perspectives on organisational activities, reducing operational blindness (Rimes et al., 2017). Integrating informal care contributions in traditionally organized services though, faces challenges with hierarchical decision-making approaches solely held by health professionals. Promoting deeper change requires shared reflections, experiences, and projects to mature and transfer elements to broader organisational levels (Boyle & Harris, 2009).

For this reason, mental health care transformation demands working at the system level, rethinking recovery-oriented practices and governance to foster a community psychiatry (Sangiorgi et al., 2021). Integrating formal and informal care within a complex ecosystem requires experimenting with new practices across organisations and actors (Hengelaar et al., 2017). This article explores these kinds of practices that facilitate encounters and collaborations toward Co-production and Recovery within mental health care ecosystems, using the co-design and implementation of a territorial lab as an example of a potential strategic organisation. As care coordination and continuity among different actors are essential for the successful integration between tasks, roles and services (Janse et al., 2017), this study has investigated which organizational dimensions and factors in a territorial co-lab foster this kind of collaboration and how these compare with the co-design processes.

In the first part the article reviews formal and informal care dynamics, outlining their roles and challenges within a community-based care. It then presents an interview-based exploratory study on the Co-Lab Torre Cimabue, an Italian community-based mental health service embracing co-production. The study examines the potential contributions of territorial labs in facilitating co-production, especially in the context of formal and informal care. The paper concludes by contemplating design strategies to enhance co-production dynamics between clinicians and non-clinicians and proposes directions for future research.

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1. INFORMAL AND FORMAL CARE IN COMMUNITY-BASED SERVICES

The concept of Community-based care emerged in mental health around 1957, with the Royal Commission recommending patients return home when appropriate (Department of Health and Social Security, 1957: 64). In 1971, additional mental well-being services were introduced,

such as supportive housing, day services, mental health nurses, and social workers (Killaspy, 2006). According to Bulmer (1987), community care involves informal and formal support for vulnerable groups, relying on informal relationships to address challenges outside institutional settings.

Community care has shown positive clinical outcomes (Kastner et al., 2018; Reynolds et al., 2018), enhanced social support compared to usual care (Reilly et al., 2015), and reduced hospitalization risk (Tricco et al., 2014). Engaging people through self-management, patient education, and improved collaboration between caregivers and volunteers enhances effectiveness (Frost et al., 2020). Rebalancing care within the community is becoming the new standard for mental health patients (Bajraktarov et al., 2020).

Organizing community mental health services demands a balance of continuity of care, access, prevention, social inclusion, citizenship rights, risk management, and early detection of incidents, integrated across multi-sector and multidisciplinary contributions (WHO, 2012). To achieve so, institutional bodies should clarify the role of informal resources to facilitate integration (Skinner et al., 2021).

Also, understanding the diverse actors' viewpoints in complex mental health systems is vital for anticipating conflicts and fostering collaboration and ensuring continuity of care (Sangiorgi et al., 2022). However, there is a tendency to dichotomize voices, giving undue authority to some (Pinfold et al., 2015). The lack of dedicated approaches and tools may make some users or informal caregivers feel excluded, leading to an exchange skewed towards the views of those with more control (Ibid).

Co-production in mental health requires rethinking people, power, partnerships, resources, and risk to balance dynamics among service users, survivors, organisations, and communities, with implications for services and practitioners. Equality and parity among all stakeholders must be achieved to ensure full collaboration, as control is distributed over different actors and time phases (Pinfold et al., 2015).

Experimentation has become integral to co-production to address relational inequalities, actively involving users, citizens, and informal organisations in co-designing, implementing, and testing new ideas, services, and products (Sorrentino et al., 2018). Territorial labs, also known as Territorial Living Labs, provide promising spaces for collaboration among the public sector, private companies, research centers, and citizens in various experimental co-production practices (Nesti, 2017). These labs are collaborative governance and experimentation initiatives in urban areas specifically designed to tackle sustainability challenges (Voytenko et al., 2016). Their primary focus is fostering collaborative learning and innovation while directly addressing user needs (Van Geenhuizen, 2019). This is primarily achieved through co-design and co-delivery processes involving the experimentation of new services or products using a prototype approach (Sorrentino et al., 2018).

This paper examines the role of territorial laboratories in facilitating collaboration among multiple stakeholders and mediating the establishment of a community-based mental healthcare approach, to then reflect on design strategies for co-production across formal and informal care.

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2. METHODOLOGY

This exploratory study is part of an interdepartmental Ph.D. research of the first author of this article, developed in collaboration between the design and management engineering departments at Politecnico di Milano. Approved by the Ethics Committee of the ASST Spedali Civili di Brescia, the study aims to explore the role of informal care within community care in mental health, investigating how organisational forms can promote care integration and service innovation. Informed by a literature review on living labs, the first author has conducted semi-structured interviews with key actors operating within or in collaboration with a territorial lab, called Brescia Co-Lab qualitative interview-based research. The Brescia Co-Lab, co-designed and co-produced within the Recovery.Net project, is a “connecting place, a bridge between the psychiatric services of the Department of Mental Health and Addiction and the local community”²; it facilitates territorial experimentation of co-produced mental health services with users, family members, local actors, and service providers. The PhD research seeks to identify factors fostering successful co-production practices between formal and informal care and proposes design strategies for replication in other contexts.

This preliminary study aims to address the following research questions:

RQ1: What is the potential role of territorial labs in supporting co-production between formal and informal care?

RQ2: How to foster co-production dynamics between formal and informal care?

The study involved a diverse range of participants. Initially, the director of Operational Unit No. 23 was interviewed when the research started to establish an overall understanding of the unit's structure, the role of CoLab within the system, and its vision.

Subsequently, interviews were conducted with various professionals, including a social and health educator, a psychologist, and a nurse coordinator from Unit No. 23. These interviews delved into their mental healthcare experiences, involvement in the CoLab development, and role as intermediaries with healthcare providers. Interviews with a psychiatric rehabilitation technician, a psychologist working within CoLab, and two Co-Lab Torre Cimabue managers have also explored their perspectives on operational processes, CoLab functioning, existing gaps, and prospects.

Furthermore, the study included three “experts by experience” as users of traditional psychiatric services and their transition toward Recovery in CoLab. Informal interviews with users were conducted aiming to foster open dialogue. Conversely, semi-structured interviews were held with health professionals covering multiple aspects, including their personal experiences, perception of CoLab, contributions to its development, involvement of formal and informal actors, and integration with other members of Unit No. 23 (Table 1). The data analysis identified seven organisational dimensions that qualify the Co-lab contribution to facilitating mental healthcare co-production with informal resources. These dimensions have been further abstracted into seven factors that enable co-production with informal resources during service delivery. The discussion then continues on how these factors should become a reference point for the enhancement of service design approaches to co-production.

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Table 1. Role of interviewees, duration, and description

Role	Duration	Description
Director of Operational Unit No. 23	60 mins	Understanding the structure of the Operational Unit No. 23, role of CoLab in the system and vision
Co-Lab manager	90 mins	Professional role, origin, and evolution of CoLab, operators and users' engagement, community engagement, integration with other services, future challenges and prospects
Community manager	34	
Social and health educator	70 mins	Professional role, patient approach and engagement, development and functioning of the CoLab, future challenges and prospects
Psychologist (Unit No. 23)	60 mins	Professional role, origin, and evolution of CoLab, operators and users' engagement, integration with other services, future challenges and prospects
Nurse coordinator		Professional role, origin, and evolution of CoLab
Psychiatric rehabilitation technician	60 mins	Professional role, operators and users' engagement, integration with other services, future challenges, and prospects
Psychologist (CoLab)	35 mins	
User 1 (female)	60 mins	Personal experience journey before and after CoLab involvement, comparing its method with other units, discussing activities, aspirations, and challenges.
User 2 (male)		
User 3 (male)		

2.1. Exploring the Role of Territorial Laboratories in Co-Production: The Case of the Recovery Co-Lab

The case examined in this study is the Brescia Co-Lab Torre Cimabue (Italy), an example of the four Recovery Co-Labs in the province of Brescia and Mantova, co-designed and implemented during Recovery-Net (2018-2021). Located in the San Polo district, characterized by social frailty, Recovery Co-Labs should have played different roles in the transformational process of mental healthcare toward community-based psychiatry: it should stimulate institutional change in individual service providers to adopt the Recovery and Co-production principles and service models; it should support value co-creation and innovation projects across different local actors, and lastly it should foster social inclusion for patients in their recovery journeys.

Among different kinds of laboratories experimenting with new solutions, the project identified three main typologies that seem to address those challenges (Sangiorgi et al., 2021): innovation labs, living labs, and community hubs. Innovation Labs work primarily on service innovation and cultural change within public sector organisations or Government (Carstensen & Bason, 2012); Living labs strengthen open innovation processes by activating and emphasizing public-private-people (PPP) partnerships outside institutions with a focus on users (Westerlund & Leminen, 2011). Also, they provide services around the user experience by engaging organisations, supporting lead users as entrepreneurs, and driving users in the innovation process (Almirall & Wareham, 2008). Community Hubs are instead multifunctional urban spaces operated with and by local communities enabling social inclusion, new welfare services, and cultural activities.

The Recovery Co-Lab aimed to incorporate elements from these three types of laboratories to drive the transformation toward community-based psychiatry. It sought to achieve this by collaboratively activating and co-designing innovative activities and services with users, family caregivers, volunteers, and citizens. Although conducted outside of traditional

institutions, these initiatives aimed to instigate a cultural shift toward a recovery-oriented approach. Additionally, the Recovery Co-Lab aimed to facilitate collaboration, dialogue, and partnerships among healthcare, social services, and the community to create more comprehensive and tailored rehabilitation processes. This effort also aimed to enhance the participant's ability to engage with local resources and jointly develop awareness, training, or socialization initiatives. Lastly, the Recovery Co-Lab shared similarities with community hubs, acting as inclusive spaces open to the community and serving as meeting points for decision-makers to coordinate and support local mental health governance, but with a broader systemic perspective.

Starting from these premises and hybrid identity, the Recovery Co-Labs had been imagined following a co-design process facilitated by a design team from Politecnico di Milano. The next part of the article will, therefore, summarize the co-design process to then focus on the follow-up stage of implementation and service delivery.

2.2. The co-design process of Co-Lab Torre Cimabue

The Co-Lab Torre Cimabue design process encompassed four main steps: a scenario development workshop spanning various territories, a contextual research focused on San Polo to inform subsequent design based on identified needs and opportunities, a secondary localized idea generation workshop specific to the Co-Lab in Brescia for selecting and refining the vision for this lab, and a third workshop for detailed specifications encompassing activities, roles, and spatial layout (Sangiorgi et al., 2021).

For the location of its territorial lab, the Brescia group identified the Cimabue tower, a space located in San Polo, a peripheral area of the city. The tower is inhabited by older adults, foreign families with many children, housing managed by social services, and people with mental health concerns supported by a social cooperative.

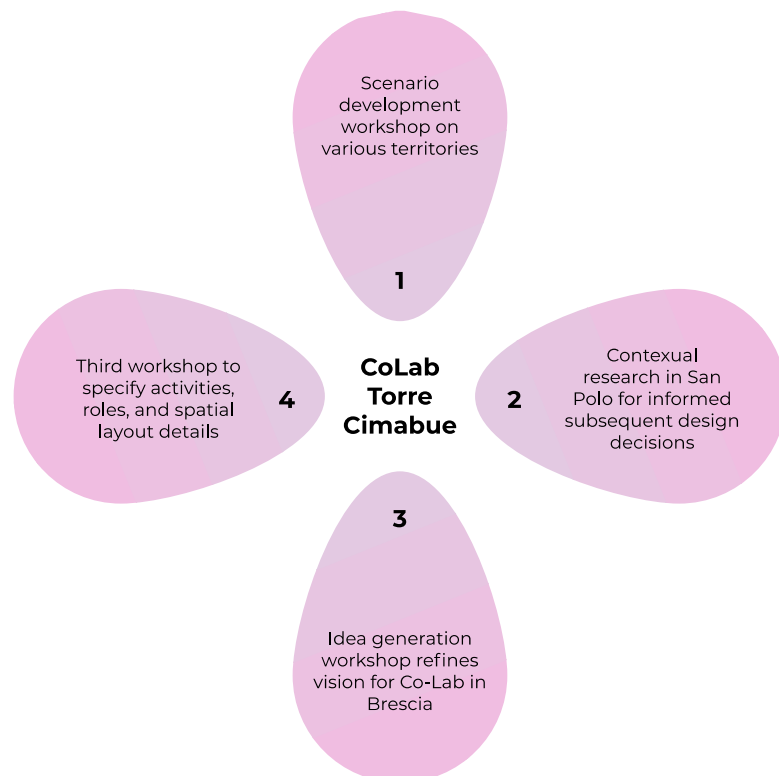


Figure 1. Four-step framework for co-designing territorial lab scenarios (Sangiorgi et al., 2021).

The first co-design workshop involved service providers and patients, project partners, and key players in the territory, such as volunteers and informal organisations. This event aimed to imagine possible scenarios for future territorial laboratories based on the research on the three types of territorial labs introduced earlier. Furthermore, participants started to imagine a model for the Co-Labs that responded to the project's needs to be developed in the subsequent phases of the process. After reflecting on some international case studies and defining fundamental values, the participants defined four scenarios for the future Co-Lab and visualize them through a storyboard (Sangiorgi et al., 2021).



Figure 2. First workshop on the definition and visualisation of four scenarios for the future Co-Lab, photo by Daniela Sangiorgi, 2020.

After identifying the ground floor spaces of the Cimabue Tower in Brescia for the Co-Lab, an extensive two-month contextual research phase was initiated in the neighbourhood to identify opportunity challenges to be incorporated into the co-design process. The field research involved conducting interviews with key local actors and conducting contextual observations, complemented by a collection of photographs capturing the neighbourhood's characteristics.

To ensure effective engagement in the co-design process, a two-day training program was conducted to introduce participants to typical design methodologies, research, and analysis methods. Subsequently, the second workshop brought together various stakeholders, including clinicians, service operators, patients, experts by experience users, volunteers, and informal organisations. During this session, the four scenarios from the first workshop were revisited, aligning them with the neighbourhood's needs and available resources. The contextualization process included defining values, identifying actors involved, outlining key activities, and determining how each scenario could effectively support mental health services in the Brescia territory.

Visual representations of the four refined scenarios were shared with the community actors to obtain valuable feedback, ultimately leading to the development of a unified scenario. The outcomes were presented during activities held in the Co-Lab space, further promoting engagement and collaboration.

Ongoing dialogues with local institutions and providers resulted in a round table discussion involving local informal organisations. As a result of these discussions, a proposal was formulated and addressed to the city council, seeking access to the future management of the Co-Lab space.

The third workshop focused on a reflective process to define how CoLab Torre Cimabue's activities could effectively address mental health needs in the space. The insights gathered during this workshop were instrumental in producing a summary document outlining spatial and furniture configurations, key activities and roles to bring the envisioned Co-Lab to life.



Figure 3. The third workshop on defining how activities could respond to mental health needs regarding space, photo by Sangiorgi, 2020

Due to its degraded condition, access to the tower was limited, and the project faced challenges with bureaucratic procedures required for securing, sanitizing, and renovating the spaces. Despite these constraints, efforts were made in parallel to design the physical space while consolidating the governance model. This consolidation involved integrating representatives from various key players actively involved in the project.

2.3. Transitioning from the Recovery Co-Lab to Co-Lab Torre Cimabue: An Analysis of the Implemented Co-Production Model

At the end of the design experience, users, informal organisations and operators shared their interest with local institutions in continuing the project. The health provider then recognised the potential of the laboratory and decided to continue the activities. The Recovery Co-Lab, therefore, changed its name to CoLab Torre Cimabue and started a process of reintegration into the services. It has been recognised by the regional government (Regione Lombardia) as an innovative psychiatry programme. It is implemented by the Department of Mental Health and Addiction of the local health provider ASST Spedali Civili of Brescia by the Psychiatry Operating Unit No. 23.

In the transition from the Recovery Co-Lab to CoLab Torre Cimabue, the new CoLab was designed as a flexible environment that serves as a hub for various ideas and activities, accessible to both users and citizens. Its primary goal remains to promote mental health and

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psychosocial well-being through various services, including informational resources, counseling services, meeting spaces, training facilities, laboratories, and territory mapping initiatives. Notably, the project has retained its original qualities, such as being an inclusive and resource-enhancing space within the local community.

Regarding service delivery, some activities have evolved into routine processes. For instance, involving patients in the CoLab design has transitioned into a structured programming phase. Meanwhile, specific projects are still in their early stages and require further development. For example, the group responsible for mapping local resources holds significant potential for service enhancement. This mapping activity actively involves users, empowering them to identify valuable resources in collaboration with healthcare providers and family members. It helps fulfill individual patient preferences, foster a sense of belonging to a non-institutional environment or group, and establish connections beyond psychiatric and healthcare services.

However, it is worth noting that the mapping activity currently focuses more on internal CoLab work and less on integration with other services offered by the healthcare provider. The transition from the two projects necessitated adjustments in the organisation to align with bureaucratic regulations, given that the healthcare provider's organisational structure did not initially accommodate a unit like CoLab. Currently, the CoLab Torre Cimabue has made significant progress becoming an established reality in the local community, with multiple activities and initiatives. Beyond providing educational courses for gaining essential knowledge and skills beneficial for a recovery journey and personal or professional development, CoLab Torre Cimabue has curated a range of group activities, planning sessions, and discussion workshops. This progress in establishing fruitful relationships with the territory is also improving integration with the Psychiatry Operating Unit No. 23, a bridge between formal and informal care services and the community. Interviews illustrated already which factors are supporting this collaboration.

3. DATA ANALYSIS

From the analysis of the interviews reporting on the experience of the CoLab Torre Cimabue, seven main organisational dimensions (informal setting and resources, real-life and Recovery-oriented experimentations, tangible and welcoming space, horizontal and equitable relationships, exchange of information and continuity of services, omnichannel communication and promotion, urban regeneration and participation), emerged regarding the potential role of territorial labs in supporting the co-production of mental healthcare with informal resources. The interviews were conducted in Italian, and the authors provided English translations for the quotations.

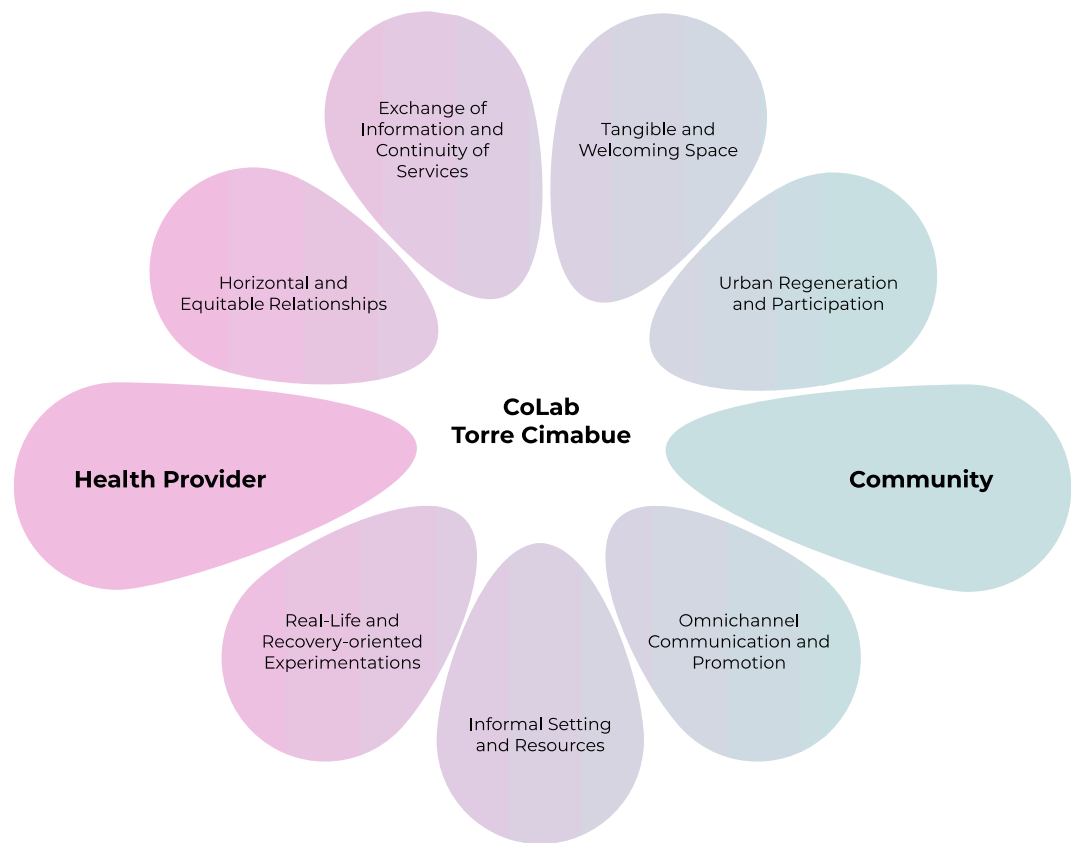


Figure 4. Seven dimensions territorial labs support mental healthcare co-production with informal resources: from the health provider to the community

3.1 Informal setting and resources

The approach adopted by CoLab Torre Cimabue facilitates a transition from a clinical to a community perspective and approach to mental health thanks to two main qualities, e.g., the setting informality and the informal nature of the activated resources.

In particular, the informal setting of the CoLab offers service users a more spontaneous and open access to information and opportunities for engagement compared to formal and clinical contexts.

Furthermore, unlike in the past, when local resources were primarily from to the healthcare sector, the Torre Cimabue Co-Lab has been interacting and integrating resources with territorial informal organisations and activities beyond the scope of mental health. Reducing barriers from both the service users and the local organisations enable an effective re-integration of patients into the community with the aim to restore their role within society.

At CoLab, due to its strong connection with the community, there is the opportunity to regularly interact with users, family members, and other professionals. Unlike traditional services, this daily interaction allows reaching people who might not otherwise be informed about some issues. (Psychiatric rehabilitation technician personal communication, 22 May, 2023)

3.2 Real-life and Recovery-oriented experimentations

Recovery paths need real-life situations for experimenting with key principles, including co-production. While residences and daytime centres play a crucial role during acute phases, guiding individuals back into their daily routines is equally important once they start feeling better. Nowadays, psychiatry acknowledges the significance of the local community in care pathways.

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In this context, the CoLab Torre Cimabue has integrated and further developed the pre-existing Recovery-oriented initiatives of the Department of Mental Health (e.g., the Recovery Star or Recovery College) to increase the capacity of care co-production. Starting from this strong background, the Co-Lab has increased the collaboration with local informal organisations for the rehabilitation process.

The experimentation with these recovery and co-produced initiatives is related also to the engagement with users with different care needs and belonging to different age groups. For example, the training programs actively engage users, but the extent of their impact varies from person to person based on their experiences with the services. Those using these traditional mental health services for years may require additional support to become active participants—the continuity and growth of these activities over time hinge on involving new individuals and igniting fresh interests. For instance, young people have become more engaged in CoLab through opportunities to create new initiatives, like the Mente Serena Young group, an activity of CoLab aimed at young people aged 18 to 36.

Young people might find it difficult to participate in a strictly psychiatric service, but at CoLab this factor is not an obstacle. We have many young users, some of whom are followed by the services, while others are not, but they find CoLab welcoming and accessible. This element greatly assists people's participation, as it considers their needs, ideas and proposals, promoting co-design and the valorisation of experts' experience. (Psychologist, personal communication, 22 May, 2023)

3.3 Tangible and Welcoming space

The presence of a dedicated and distinct physical space outside institutional services and the enthusiastic commitment of the operators are critical elements for the success and evolution of CoLab models. This environment serves as a physical foundation for activities and interactions, creating a tangible and less stigmatized place where community members can gather and share experiences. The proactive approach of the operators plays a pivotal role in fostering community-level integration, showcasing a genuine devotion to the mental well-being of the community. The CoLab's openness to patients who may not initially have access to its services is a crucial step toward greater inclusion and accessibility. This can help break down barriers to accessing mental health services and ensure that more individuals can benefit from the resources offered by CoLab. Furthermore, the space for a counselor in charge of resocialization placements conducting one-on-one meetings at CoLab provides an additional entry point to services and enhances visibility within the community. This contributes to a broader network of support and resources for those seeking assistance and support in managing their mental health.

Many young individuals, some receiving support from mental health services and others not, attend CoLab. This inclusivity is beneficial because it shows that access to a mental health-related environment that is open and less stigmatized, but not strictly tied to psychiatry facilitates people's participation and interest. (Psychologist, personal communication, 22 May, 2023)

3.4. Horizontal and equitable relationships

The inclusive approach at CoLab has significantly enhanced all participation, focusing on engaging young individuals and fostering egalitarian and respectful relationships. While there might have been initial variations in how operators engaged with CoLab activities, a concerted effort has been made to ensure balanced involvement over time. Integrating the recovery

culture and CoLab principles among operators has been a priority, and this inclusive approach has been extended to citizens and volunteers. Interactions at CoLab encompass community volunteers and specialists, with decisions on involvement reached through multidisciplinary internal discussions. CoLab meetings span from informal gatherings to structured sessions, promoting flexibility and collaboration among operators. The absence of a rigid hierarchy encourages sharing and cooperative efforts.

In the traditional workplace, the culture of assessment can be somewhat intimidating as it might be perceived as a judgment on individuals. However, the involvement of everyone, regardless of their backgrounds, especially in engaging with young individuals, has fostered horizontal, equitable, and respectful relationships. This challenges the idea that maintaining a position of power necessitates vertical relationships. (Social and health educator, personal communication, 20 March, 2023)

3.5 Exchange of information and continuity of services

In the healthcare context under analysis, there is a lack of a culture of maintaining and updating projects, which are often abandoned and then restarted from scratch, causing wasted time. However, in 'intangible' contexts such as CoLab, mistakes are seen as opportunities for learning and change. Obstacles offer new perspectives and opportunities to develop a different vision, making this model dynamic and resilient. This approach aims to promote greater integration between CoLab and other services, using community resources to support the recovery process of patients. The current challenge is to find practical solutions to facilitate the rapid exchange of information, foster effective integration between internal and external services, and ensure continuity of services and better coordination between professionals.

We consider their needs, ideas, and proposals, aiming to co-design and utilize the expertise of professionals. This vision is fundamental, and we strive to implement it in the majority, if not all, of our activities to ensure continuity and ongoing improvement. (Psychologist, personal communication, 22 May, 2023)

3.6 Omnichannel communication and promotion

The presence of a community manager within the CoLab is essential to maintain effective communication with the external audience, mainly through managing activities on social media and caring for the website, which is updated weekly. These two aspects are fundamental pillars of external communication, enabling an open dialogue with the community and maintaining meaningful contacts. However, a less interactive communication channel is the monthly newsletter sent to those interested in the Colab's activities. Although there has yet to be immediate feedback on the effectiveness of this tool, it could draw attention to complex and detailed activity proposals. This can be particularly useful for treatment paths, admissions, or case management, which could benefit from Colab's resources.

In addition to the community manager, we have a dedicated communication team that meets regularly every week to manage and update our website and plan other initiatives. (Psychiatric rehabilitation technician, personal communication, 22 May, 2023)

3.7 Urban regeneration and participation

Establishing CoLab in a peripheral context characterized by profound social inequalities within a deteriorated building and facing prevalent hostility from the residents represents a significant challenge in promoting greater community participation and integration. CoLab, functioning as a model of horizontal collaboration, positions itself as an open bridge within

this community, transcending the mental health context. Within this space, individuals can transit and stay based on their needs, contributing to gradually developing a sense of belonging.

Despite the physical challenges of our location, as the tower has a negative reputation and can be uninviting due to its frequent lack of cleanliness caused by the residents' attitudes, we have deliberately chosen to be here to address these issues and promote greater integration and participation. (Psychologist, personal communication, 22 May, 2023)

4. DISCUSSION

As revealed through interviews, reflecting on these dimensions from Co-Lab Torre Cimabue emphasizes critical organizational aspects for a co-design process aiming to enhance collaboration between formal and informal care in mental healthcare settings. From these organisational aspects, seven transversal pivotal factors affecting the co-production of mental healthcare with informal resources have been identified: Time, Value, Participation, Co-design, Scale, Space, and Attitude (see Table 2). While the co-design process has successfully nurtured a collaborative approach and culture among some participants, these factors have emerged as indispensable in the service delivery stage. Co-designing with these factors in mind is instrumental in better bridging the gap between the service design and service delivery phase, promising more transformative effects on the mental healthcare landscape.

Table 2. Factors of co-producing mental healthcare with informal resources during service design and service delivery

Factors	Co-design	Co-delivery
Time	Defined to specific objectives	Flexible and adaptable to the context needs
Value	Convergent with design objectives	Dynamic and constantly changing with respect to the diversity of actors
Participation	Formal design-oriented and mediated by clinicians	Informal and based on an individual engagement and relationship toward equitable relationships
Co-design	Functional programming activity essential for the solution	Integrated in the continuous processes of engagement and co-creation
Scale	Replicable tools based on contextual needs	Subjective to individual motivation and proactivity
Space	Dedicated and flexible spaces in the neighborhood	Fixed and reference space to the clinical services and the community
Attitude	Exploratory toward idea generation and service specifications	Experimental toward recovery oriented and co-produced initiatives

The core of these factors concerns the experimentation of practices outside the traditional organisational logic typical of territorial labs, structures that favour a dynamic co-production in mental healthcare. Notwithstanding the success of CoLab Torre Cimabue in its present form, the design and delivery phases still present some challenges when integrating informal co-production as a more integrated practice, even in environments with actors motivated to create it. The value of informal relationships determines the greater effectiveness of interventions, but at the same time, it is challenging to apply in other contexts. From the health provider's perspective, the organisational set-up, workforce, and task management would need to readjust to a dynamic environment with weak regulative infrastructures. Nevertheless, a service design approach can be integrated into the engagement and co-creation process. In doing so, an informal approach combined with a service design approach may provide "organisational functions relating to communication, maintenance of cohesion,

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and safeguarding individuals against the dehumanising aspects of formal organisations" (Wu et al., 2021: 2).

To support the development of services within Co-Labs, service design should be more dynamic through an approach that captures contextual needs, encourages exchange, and facilitates new relationships.

5. CONCLUSION

The Co-Lab Torre Cimabue in Brescia embraced a service design approach to co-design activities with diverse participants. The transition from designing individual care pathways to aspiring for a broader mental health care model transformation necessitated an inclusive and participatory approach operating across various levels. This engagement encompassed a range of stakeholders within both the local community and institutional realms, considering the intricate dynamics of social exclusion and stigma embedded in society. Considering the intricate transformation process of the mental health ecosystem, this project was devised to function on multiple levels. It operated at the micro-level by co-producing individual treatment pathways, at the meso-level by innovating organizational practices, and at the macro-level by concurrently stimulating cultural social change and policy development.

The emerged organizational dimensions of the laboratory and service delivery factors underline the need for ongoing, iterative processes that adapt to changing needs, fostering progressive, and dynamic interactions. Enabling the potential dimensions discussed in the paper means striving for active community engagement and collaboration with formal resources, avoiding stagnation and isolation of the activity. Inside the CoLab, service co-production happens systematically and iteratively, involving the local community as well. However, extending this involvement and integration to traditional mental health services proves challenging, primarily due to traditional hierarchical organization, such as logistical and time constraints related to task shifting. Moreover, there needs to be more recognition of the value of territorial labs not as an extraordinary and limited project, but as an integral part of the clinical pathway. Specifically, a systemic vision that emphasizes a comprehensive understanding of the interconnection between individual roles is necessary to consolidate territorial lab activities beyond the experimental space. Although the contextual and personal factors of individual actors influence the integration and development of new approaches, considering these dimensions and factors in integrating co-design with co-delivery can support the transition towards the creation of territorial workshops for co-production.

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