

Codesign as a strategy to enhance health and well-being in hospital nursing teams

Larissa Berlato  ^{a*} | Renata Hinnig  ^a | Diogo Camillo  ^a | Dirce Maria Capobianco Fava  ^a

^a Hospital Israelita Albert Einstein, São Paulo, Brazil

* Corresponding author: lari.berlato@gmail.com

ABSTRACT

Mental health and well-being in hospital work environments remain critical challenges, as organizational and psychosocial factors, such as high workloads, emotional demands, and adverse working conditions, continue to affect healthcare professionals, particularly nursing staff. This study aims to investigate how codesign approaches can contribute to the identification, development, and implementation of health and well-being interventions in this context. To this end, an exploratory and descriptive case study was conducted at Einstein Hospital Israelita, employing qualitative and quantitative methods. The codesign process resulted in the generation of 36 ideas, of which four were selected for prototyping and implementation across ten institutional areas, based on needs identified by participants. The findings indicate that codesign supported the identification of situated needs, the collaborative development of solutions, and the engagement of professionals throughout the process. The implemented interventions demonstrate the feasibility of applying participatory approaches to address complex organizational challenges. As a contribution, the study highlights the potential of codesign as a methodological approach to support the management of complex problems in healthcare by integrating design techniques and tools into participatory processes. Additionally, it offers implications for the design field by evidencing its role in mediating collaborative processes and fostering user-centered innovations in hospital environments.

Keywords: Codesign, Health Promotion, Healthy Work Environments; Nursing staff, User-centered Design; Well-being.

INTRODUCTION

Workplace well-being has emerged as an issue of growing global relevance, especially after the COVID-19 pandemic, which exposed the limitations of health systems in adequately responding to the impacts on workers' mental health (PAHO, 2022). Healthcare, humanitarian, and emergency professionals are particularly vulnerable to psychosocial risks due to both the nature of their work and organizational conditions.

The global economic impact of poor mental health was estimated at more than US\$ 210 billion in 2010, with projections of US\$ 6 trillion by 2030 (Goetzel, 2018). It is estimated that approximately 15% of the global workforce suffers from a mental disorder at any given time. Disorders such as depression and anxiety account for the loss of approximately 12 billion productive days annually, resulting in costs of nearly US\$ 1 trillion (Global Health Data Exchange, 2019; WHO, 2022). In view of this reality, the World Health Organization (WHO) and the International Labour Organization (ILO) have developed specific guidelines for the

prevention of psychosocial risks and the promotion of workplace well-being, emphasizing organizational interventions directed at healthcare professionals (WHO, 2022; ILO, 2022).

WHO guidelines on mental health at work highlight important gaps in the available evidence, particularly regarding the acceptability, accessibility, adherence, cost-effectiveness, and feasibility of multilevel preventive interventions. There is a notable lack of studies evaluating organizational interventions using validated and culturally appropriate measures of mental health, psychosocial risks, and work-related outcomes. Further research is needed to better specify risk factors, identify effective intervention components, and examine organizational strategies to mitigate mental health risks, especially in high-demand sectors such as healthcare, emergency, and humanitarian contexts (WHO, 2022).

The effectiveness of organizational interventions fundamentally depends on the active participation of professionals in the development of strategies (WHO, 2022). In this context, codesign emerges as a promising approach, characterized by collaborative creativity between designers and users working together throughout the process (Sanders & Stappers, 2008). In the healthcare sector, studies show that codesign constitutes a strategic process to promote well-being, improve performance, and strengthen team resilience (Partouche-Sebban et al, 2022).

By actively involving nursing professionals as partners in diagnosing and formulating solutions, healthcare institutions can implement more appropriate, realistic, and sustainable interventions capable of mitigating distress and promoting well-being (Jelen et al., 2024). Considering the complexity of the challenges faced by these professionals and the need for contextually appropriate solutions, this study aims to investigate how codesign contributes to the identification, development, and implementation of health and well-being interventions in a hospital context. This project results from a collaboration between the Innovation Directorate of Einstein Hospital Israelita through the Health Design Lab (HDLab), and the Well-being and Mental Health Management, Occupational Health Management, and Care Practices Management departments of the same institution.

1. THE THEORETICAL REFERENCE

1.1. Well-being and Mental Health at Work

The World Health Organization defines health as “a state of complete physical, mental and social well-being” (WHO, 1946), recognizing well-being as a multicultural and holistic phenomenon encompassing emotional, physical, intellectual, spiritual, occupational, and social dimensions (National Wellness Institute, 2023), as illustrated in Figure 1:

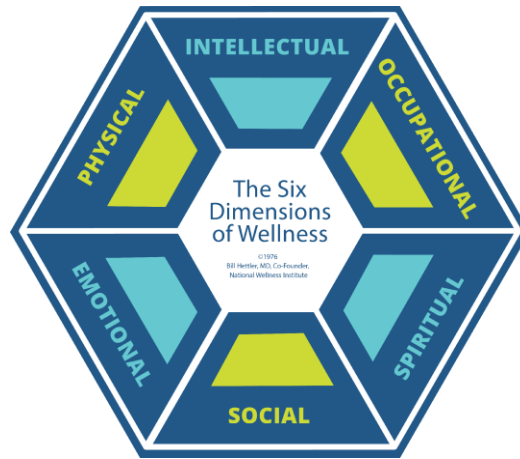


Figure 1: The Six Dimensions of Wellness (National Wellness Institute, 2023).

Mental health is a key determinant of individual and collective well-being, influencing the ability to manage stress, function socially, and realize one's potential (PAHO, 2022). When compromised, it affects work capacity and productivity, with impacts extending to economic vulnerability and broader societal costs (WHO, 2022).

Investment in mental health generates benefits in three main dimensions: (I) in health, with increased life expectancy and reduced suicides; (II) in the social sphere, with strengthened relationships and reduced need for caregivers; and (III) in the economic sphere, with higher productivity and income, in addition to reductions in absenteeism, presenteeism, and healthcare expenditures (WHO, 2022).

The relationship between work, health, and well-being has been recognized since Antiquity, with early observations on the impacts of work on human health. With the Industrial Revolution, occupational risks became more evident, leading to the development of legislation and risk management models focused on controlling harmful exposures (Litchfield et al., 2016). Although physical risks have declined in contemporary contexts, organizational and psychosocial factors remain key determinants of workers' mental health, arising from both job characteristics and broader organizational conditions, as summarized in Table 1.

POTENTIAL RISKS	EXAMPLES
Work content and tasks	• Lack of variety in work • Underutilization of skills or insufficient qualifications for the job • Unsafe or informal work
Workload and work pace	• Heavy workload
Working hours	• Long working hours • Shifts work • Inflexible schedules
Job control	• Lack of control over workload • Limited participation in decision-making about one's own work
Work environment and equipment	• Inadequate physical working conditions
Organizational culture	• Inadequate communication • Unclear organizational goals • Limited opportunities for personal development • Organizational culture that tolerate violence, harassment, discrimination, or bullying
Interpersonal relationships at work	• Limited support from supervisors or colleagues • Violence, harassment, and bullying
Discrimination	• Any discrimination based on factors such as identifying factors such as race, ethnicity, sexual orientation, gender identity, religion, or age • Discrimination against Indigenous peoples, migrants, and persons with disabilities, including psychosocial disabilities
Role in the organization	• Unclear professional role within the organization or team
Career development	• Underpromotion or overpromotion • Job insecurity • Low pay
Home-work interface	• Conflicting demands between work and personal life

Table 1: Examples of risks to mental health at work (WHO, 2022).

In hospital settings, nursing professionals are highly exposed to psychosocial risks due to traumatic events, ethical dilemmas, and intense emotional demands. These risks are exacerbated by excessive workloads and inadequate working conditions, increasing the likelihood of mental health impairments, a situation further intensified by the COVID-19 pandemic (Dyrbye, 2017; Safeer & Bowen, 2018; WHO, 2022).

Promoting mental health at work requires preventive actions that reduce risk factors, strengthen protective factors, and foster an organizational culture that integrates well-being into daily practices. The workplace is a strategic setting for health promotion, as group-based interventions tend to be more effective than individual ones (Litchfield et al., 2016; Safeer & Bowen, 2018).

In this context, WHO and ILO (2022) developed guidelines for the prevention and promotion of mental health at work, recommending: (I) prevention of psychosocial risks through identification and reduction of stressors; (II) promotion of well-being with a positive organizational culture, emotional education, and work-life balance; (III) structural organizational interventions, including reorganization of working hours and strengthening of leadership; (IV) support for workers with mental disorders, ensuring confidentiality and return-to-work processes; and (V) capacity building and public policies, integrating mental health into labor policies and evidence-based training. These guidelines emphasize the

importance of participatory and collective interventions, particularly for workers exposed to high psychosocial risks, such as healthcare, humanitarian, and emergency professionals.

According to WHO (2022), organizational interventions demonstrate a positive impact on indicators of well-being, performance, and occupational resilience. Successful experiences of participatory methods in well-being interventions have been recorded even in low-and middle-income countries, with sociocultural adaptations to local realities.

The relevance of workplace well-being has led healthcare institutions to implement initiatives such as “Joy in Medicine” at Johns Hopkins Medicine (JHM), aimed at reducing burnout, strengthening resilience, and improving working conditions (Safeer & Bowen, 2018). The Institute for Healthcare Improvement developed the “Joy in Work” framework, positioning well-being as a strategic factor linked to patient safety, care experience, and organizational performance (Perlo et al., 2017).

1.2. Codesign

Herbert Simon (1986) conceptualizes design as a “science of the artificial,” oriented toward the creation of artifacts and systems that respond to human purposes. Design, therefore, involves transforming existing situations into preferred ones through systematic, creative, and iterative processes. Building on this perspective, design can be understood as a field of practice and inquiry integrating purpose, function, and context. Rather than assuming a fully predefined problem space, design operates through the progressive structuring of problems and solutions, in which the understanding of needs and opportunities co-evolves with the development of proposals (Buchanan, 1992; Dorst & Cross, 2001).

In contemporary times, the field of Design has expanded its scope of action, integrating multiple domains, from products to services, systems, and organizations, incorporating new actors, such as specialists from various disciplines and end users. This transition marks a shift from closed processes to open and collaborative ones (Manzini, 2017). Within this context, design assumes a strategic role across four main areas: visual communication, material objects, services, and complex systems oriented toward the conception of integrated ecosystems for living, working, and interacting (Buchanan, 1992).

Thus, Design transcends the aesthetic domain and consolidates itself as a strategic discipline capable of addressing the complexity of contemporary sociotechnical systems. Through co-creative and user-centered processes, it contributes to innovation, sustainability, and collective well-being (Manzini, 2017). This approach materializes in codesign, understood as the creative collaboration between designers and non-designers throughout the design process (Sanders & Stappers, 2008), in which diverse participants jointly investigate problems and develop solutions (Steen et al., 2011).

Codesign entails the active participation and negotiation among multiple actors, including users, technicians, entrepreneurs, and organizations in a dialogical and social process aimed at fostering positive and shared change (Sanders & Stappers, 2008; Manzini, 2017). It is a complex and sometimes antagonistic process that involves acknowledging different skills and repertoires within a context of collaboration and mutual learning (Steen et al., 2011).

In complex contexts, the designer’s role remains essential as a strategic facilitator of collective intelligence, employing technical and methodological expertise to interpret data, manage uncertainty, and translate insights into actionable solutions (Sleeswijk Visser et al., 2005;

Sanders & Stappers, 2008; Manzini, 2017). Simultaneously, users act as experts of their own experiences, providing perceptions and needs that enrich the creative process.

Codesign processes are dynamic, grounded in creative and collaborative practices that require visualization and prototyping tools, enabling the combination of diverse ideas into innovative solutions (Manzini, 2017; Meroni et al., 2018). The application of codesign from the early stages of a project enhances its long-term impact and amplifies the transformative potential of Design, particularly when participants are engaged throughout the entire process, including decision-making phases (Sanders & Stappers, 2008). Such emerging practices reinforce the social dimension of Design and its capacity to articulate long-term perspectives and collective-oriented approaches.

Sanders and Stappers (2008) emphasize that applying codesign in the early stages of the design process fosters positive and lasting impacts, but sustained participation throughout all phases, particularly in decision-making, enhances its transformative potential. Consequently, emerging design practices increasingly address social and human needs through long-term, systemic, and participatory approaches.

The study by Steen et al. (2011) demonstrates that the practice of codesign in service design projects generates significant benefits. At the project level, codesign stimulates creativity, enhances the understanding of user needs, and fosters integration among clients, users, and collaborators, resulting in more original, relevant, and higher-quality solutions. From a managerial perspective, it contributes to more informed decision-making, cost and time reductions in development processes, and the promotion of continuous improvement cycles. For users, codesign ensures better alignment between services and their expectations, thereby enhancing user experience, satisfaction, and loyalty. At the organizational level, codesign strengthens internal creativity, customer orientation, and interdisciplinary collaboration, facilitating the diffusion of innovations, the improvement of internal processes, and the development of innovative capabilities. Collectively, these effects contribute to more consistent relationships between organizations and users, as well as to the consolidation of a more positive institutional image.

The study by Partouche-Sebban et al. (2022) demonstrates that co-creation among healthcare professionals is a strategic mechanism to promote well-being, enhance performance, and strengthen team resilience. At the individual level, participation in decision-making within contexts of trust and transparency fosters empowerment, engagement, and curiosity. In terms of performance, collaborative involvement and knowledge sharing positively influence efficiency, productivity, and innovation. At the collective level, co-creation strengthens resilience by reinforcing trust, sense of belonging, and constructive communication, while shared positive emotions support teams' adaptive capacity in complex healthcare environments.

Hospital environments are high-stress contexts that require context-sensitive organizational responses. In this setting, the inclusion of healthcare professionals in diagnosing challenges and developing solutions supports more contextually aligned interventions, contributing to reduced distress and improved well-being. Codesign emerges as a strategic approach to align clinical needs with institutional actions, enhancing responsiveness and resilience (Jelen et al., 2024). These findings align with prior studies emphasizing the effectiveness of collaborative, user-centered approaches due to their greater relevance and adherence (Sanders & Stappers, 2008).

In summary, the continuous adoption of codesign processes in hospital settings contributes to the enhancement of professional well-being and organizational culture, fostering human-centered, innovative, and sustainable work environments.

2. THE STUDY

The study considers the hypothesis that the codesign approach, by promoting the active participation of nursing professionals in the process of diagnosing, developing, and implementing solutions aimed at their well-being, contributes to:

- Increasing the adequacy and relevance of interventions to the needs and expectations of the nursing team;
- Promoting engagement and adherence of professionals to the proposed solutions;
- Contributing to the reduction of suffering factors and to the intensification of well-being conditions in the work environment;
- Strengthening organizational culture, especially regarding innovation and worker-centered care;
- Promoting a sense of belonging, learning, and increased well-being among the participants of the initiative.

Thus, the objective of this study is to investigate how codesign contributes to the identification, development, and implementation of health and well-being interventions tailored to the needs of nursing professionals in a hospital setting.

3. METHODOLOGY

This exploratory and descriptive case study employed a mixed-methods approach to examine the application of codesign in a hospital context, integrating qualitative and quantitative data collection and analysis to understand both processes and outcomes (Yin, 2015). The case study methodology was selected for its capacity to investigate complex phenomena in real-world settings without researcher control over events and variables, enabling in-depth examination grounded in theoretical frameworks and empirical findings (Martins & Theóphilo, 2009).

3.1. Context and participants

The study was conducted at Einstein Hospital Israelita, a Brazilian non-profit healthcare organization that integrates patient care, education, research, and social responsibility initiatives, operating a medium- to high-complexity healthcare system comprising 18 private units and 23 public healthcare facilities.

Participants comprised nursing professionals, including nurses, technicians, and assistants, across various shifts and units of the hospital, encompassing Einstein Clinics, External Units, Vila Santa Catarina Municipal Hospital, Morumbi Unit, Aparecida de Goiânia State Hospital, and the Teaching and Research Center. Following an open invitation to all care units, 117 professionals registered through convenience sampling and voluntary adherence, with participation varying throughout sessions.

3.2. Data collection and analysis

Data collection utilized methodological triangulation (Flick, 2009; Creswell, 2014), combining quantitative and qualitative strategies. Quantitative data included attendance records, number of generated ideas, satisfaction assessments using numerical scales, and Net Promoter Score (NPS). Qualitative data included participant observation, spontaneous comments, visual documentation of generated materials, and document analysis of reports available on a SharePoint platform.

Quantitative data underwent descriptive statistical analysis, including arithmetic means, adherence percentages, and NPS calculation (Martins & Theóphilo, 2016). Qualitative data from open comments were subjected to thematic content analysis following Bardin's (2016) framework, including pre-analysis, coding, and categorization.

A priori categories were defined based on The Surgeon General's Framework for Workplace Mental Health and Well-Being (U.S. Department of Health & Human Services, 2022), encompassing five dimensions: Protection from Harm, Connection & Community, Work-Life Harmony, Mattering at Work, and Opportunity for Growth. Categorization validity was ensured through reflective review and researcher discussion.

3.3. Design approach

The methodological design of this study is grounded in the Service Design approach, operationalized through a codesign process involving nursing professionals throughout different stages of the research. Service Design is understood as a user-centered, collaborative, evidence-based, and systemic approach that supports the development of innovative and organizationally sustainable solutions (Stickdorn & Schneider, 2014; Stickdorn et al., 2018; Sangiorgi & Prats, 2017).

Within this perspective, codesign is adopted as a methodological strategy that enables the active participation of stakeholders in the identification of problems and the development of solutions, expanding perspectives and enriching the outcomes (Meroni & Sangiorgi, 2011). This approach is aligned with the study's objective of analyzing how participatory processes can contribute to the promotion of health and well-being in hospital settings.

The methodological process was guided by the Double Diamond model, developed by the Design Council, and structured into four main phases: Discover, Define, Develop, and Deliver. These stages are organized into two successive cycles of divergence and convergence, representing the movement between broad exploration of possibilities and refinement into concrete solutions (Design Council, 2015), as shown in Figure 2:

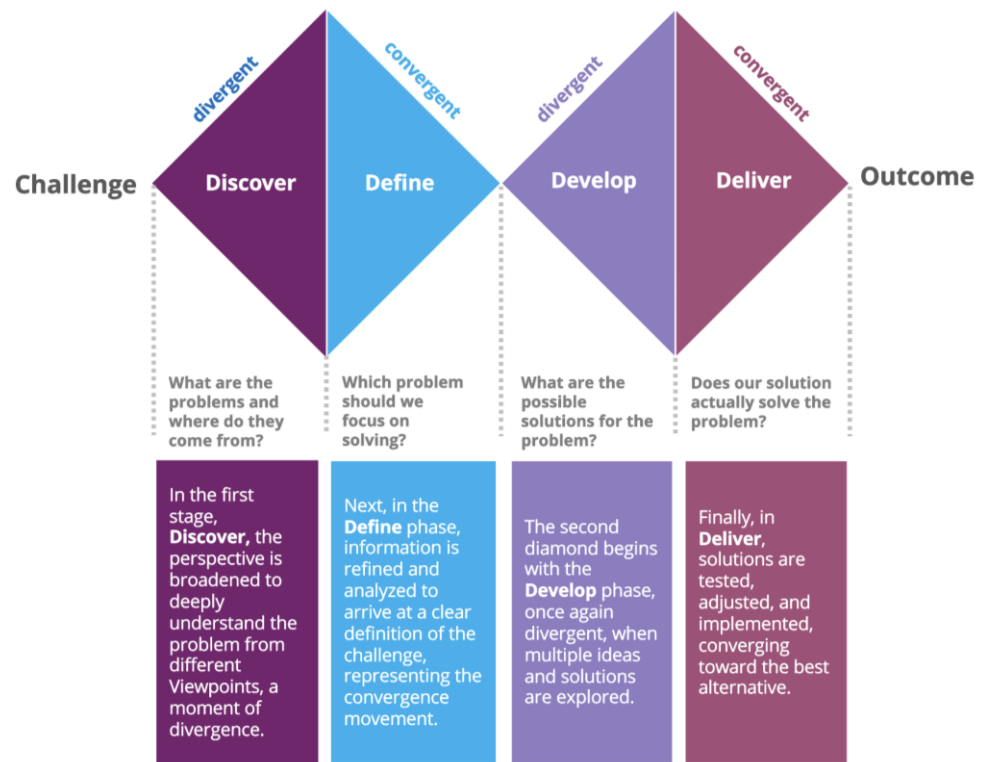


Figure 2: Double Diamond (adapted from Design Council, 2015).

The **Discover phase** involves active listening and understanding the challenges experienced by users and stakeholders. Next, the **Define phase** organizes findings to formulate central problems that guide ideation. The **Develop phase** focuses on exploring ideas and developing possible solutions through creative generation and refinement. Finally, the **Deliver phase** is dedicated to prototyping, testing, and validating proposals, evaluating their practical applicability and assessing the effects of implemented solutions (Design Council, 2015).

Within this methodological pathway, different design methods and tools were employed as instruments for data collection, analysis, and solution development, in alignment with each phase of the Double Diamond model.

In the **Discover phase**, forms inspired by the Empathy Map were used, enabling the identification of cognitive, emotional, and behavioral dimensions of nursing professionals' experiences, in addition to active listening and group discussions (Stickdorn et al., 2018).

In the **Define phase**, tools such as the Problem Tree were applied to structure the identified challenges (Curedale, 2013), as well as the "How Might We..." technique, used to reframe problems into guiding questions for ideation (Stickdorn et al., 2018). A Service Ecosystem Map was also developed, allowing visualization of actors, relationships, and systemic elements within the studied context (Kimbell, 2014).

In the **Develop phase**, ideation was carried out through the SWAP method, combining individual and collective idea generation (Stickdorn et al., 2018). Subsequently, the Impact x Effort Matrix was applied to prioritize proposals according to feasibility criteria and potential impact.

In the **Deliver phase**, the selected solutions were structured with the support of the Lean Canvas and 5W2H tools, facilitating the organization, planning, and implementation of interventions. Prototyping in real-world contexts was incorporated into the validation

process, allowing the assessment of applicability, effectiveness, and opportunities for improvement.

4. RESULTS OF THE CASE STUDY

4.1. Nursing Well-Being Committee

The Nursing Well-being Committee, established in 2023, emerged as an institutional response to the need for more consistent strategies to promote the health and well-being of nursing professionals. Unlike previous isolated initiatives, it was structured as a permanent space for reflection, education, and co-creation of solutions, aligned with the guidelines of the Magnet Recognition Program, an international recognition for excellence in nursing practice adopted by Einstein Hospital Israelita.

Its objective is to foster a safe, healthy, and supportive work environment, promoting the well-being of Einstein's nursing staff. The Committee operates through two complementary fronts, coordinated by a strategic group that ensures integration between operational and strategic levels throughout the implementation process (Figure 3).

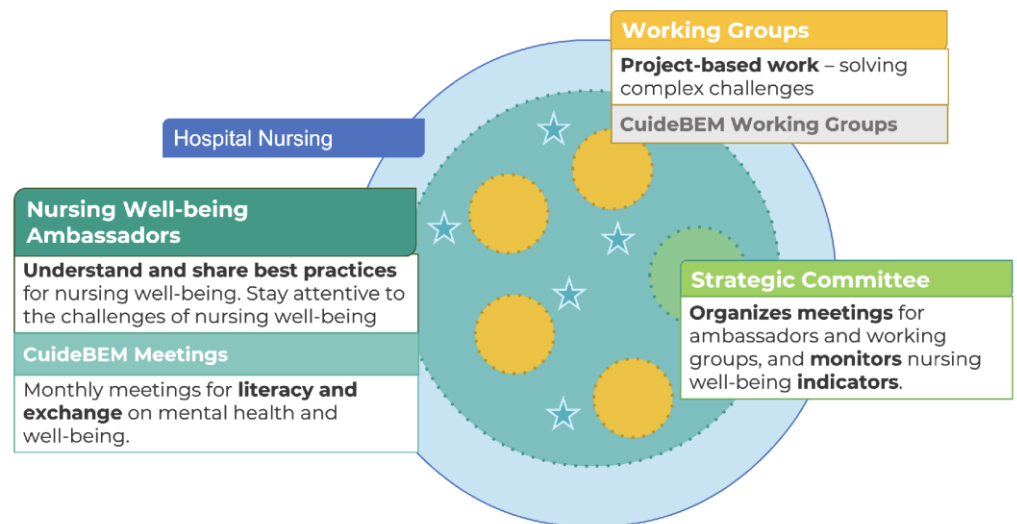


Figure 3: Nursing Well-Being Committee Structure.

The Committee's activities are organized into two complementary areas. The **CuideBEM Meetings** are monthly virtual sessions focused on literacy, experience sharing, and dialogue on well-being and mental health, fostering awareness, professional engagement, and collective learning. The **Working Groups** operate in eight-month co-creation cycles based on Design methodologies, addressing key challenges such as communication, overload, spirituality, and physical pain through collaborative diagnosis and solution prototyping. This dual structure balances broad, continuous engagement with the development of context-specific, practical interventions.

4.2. Development of the Nursing Well-Being Committee

Phase 0 – May to August 2023

Phase 0 focused on defining the Committee's objectives, structure, and communication plan. In August 2023, an invitation was sent to around 8,000 nursing professionals, with 569 expressing interest. A concurrent survey on workplace well-being gathered 742 responses,

analyzed qualitatively and organized into six macro-categories following Shanafelt, Ripp, and Trockel's (2020) typology. Communication and Relationships emerged as the most frequently cited challenge (347 mentions), followed by Physical Environment and Work Processes (287) and Healthcare and Benefits (264). Similarly, Communication and Relationships (619), Physical Environment and Work Processes (356), and Purpose and Meaning at Work (171) were the most cited positive contributors to well-being.

Phase 1 – September 2023 to February 2024

Given the high number of registrations, the Committee began its activities through monthly thematic meetings, focused on topics identified in the initial survey and later prioritized by members during the inaugural session.

Phase 2 – March to February 2024

Following the initial phase, an invitation was extended for members to volunteer for four Working Groups, structured based on the themes identified in the Phase 0 survey: **Communication and Relationships, Overload, Spirituality, and Physical Pain**. Simultaneously, literacy meetings continued as an ongoing space for awareness and training.

This article aims to describe the activities developed in the Working Groups throughout Phase 2 of the Committee. The Groups, formed by voluntary professionals from day and night shifts, held twelve biweekly online meetings of 1h30 between May and December 2024, as illustrated in Figure 4.

GROUP 1 Tuesday > 10:30 AM to 12 AM	GROUP 2 Monday > 9 PM to 10:30 PM	GROUP 3 Wednesday > 10:30 AM to 12 AM	GROUP 4 Wednesday > 9 PM to 10:30 PM
LISTEN TO ME	SUPPORT ME	HONOR ME	TAKE CARE OF ME
Communication and relationships	Overload, lack of team and high demand	Spirituality - Purpose and meaning at work	Physical pain
48 enrolled	24 enrolled	34 enrolled	11 enrolled
Average participation: 10 people per meeting	Average participation: 5 people per meeting	Average participation: 8 people per meeting	Average participation: 4 people per meeting

Figure 4: Working Groups – Phase 2.

The journey began with an initial presentation and discussions with invited specialists (Meetings 1 and 2). The meetings had as their central objective the generation of practical, co-created solutions aimed at promoting the well-being of the nursing staff. An additional session (Meetings 13), held in January 2025, concluded the cycle with a collective reflection on the implemented prototypes.

Each group included at least one facilitator responsible for preparing the design techniques and tools, leading discussions, and ensuring a collaborative flow throughout the activities. Facilitation ensured the completion of the Double Diamond model stages, encouraging active participation and convergence toward feasible solutions aligned with the institutional context. The timeline presented in Figure 5 describes the progression of each phase and the respective codesign methods and tools employed.

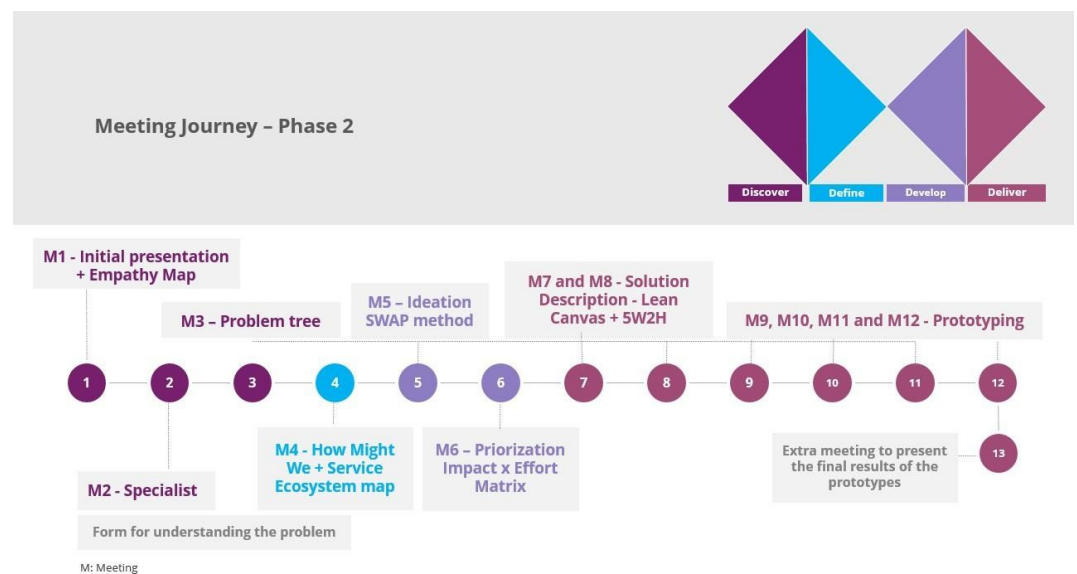


Figure 5: Working Group Meeting Journey – Phase 2.

Throughout the co-creation journey, 36 ideas were generated, of which four were selected for prototyping, as shown in Figure 6. Prototypes were implemented in ten distinct areas of the Hospital covering both public and private care contexts.

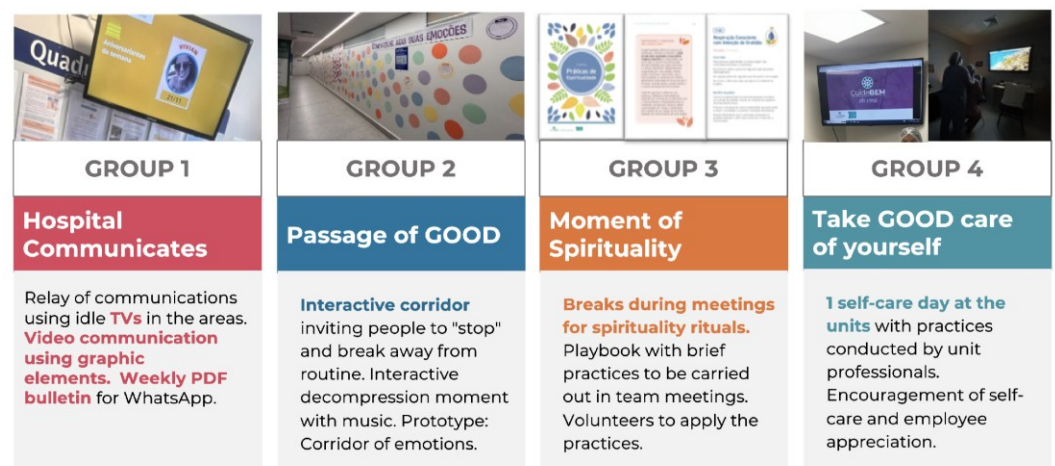


Figure 6: Prototyped Solutions.

The Communication and Relationships group identified information fragmentation and overload as central challenges within the institutional context. The solution, **Hospital Communicates**, was prototyped for one week across three hospital departments, combining centralized visual messages displayed on unit televisions with a digital PDF containing key updates. The evaluation, conducted through a survey with nursing professionals, indicated predominantly positive feedback regarding the usefulness of the initiative. The prototyping process also revealed implementation constraints, such as the need for a dedicated role responsible for content curation and publication, as well as negative perceptions associated with the use of televisions in leisure areas. Although the solution was not considered viable for large-scale adoption, the process enabled the assessment of its feasibility, made constraints explicit, and informed the decision not to proceed further.

The Work Overload group addressed difficulties in peer collaboration and the absence of spaces for decompression through the prototype **Passage of GOOD** implemented over two weeks as interactive corridors designed for pause, reflection, and collective care. The solution proved feasible and was replicated in an institutional initiative involving all hospital

departments, in addition to inspiring the use of thematic corridors for other well-being and mental health topics. Prototyping also highlighted critical factors for scalability, such as the need to moderate sensitive content, demonstrating both the intervention's potential and the importance of real-world testing to guide its expansion.

The Spirituality group proposed the **Moment of Spirituality**, prototyped in three departments over five consecutive days or across five weeks, depending on local dynamics, through brief and voluntary pauses integrated into team meetings. The practices were evaluated very positively and were refined based on participant feedback, resulting in the inclusion of nine new practices, guided audio resources, and longer sessions. The initiative subsequently began to be adopted by different areas of the institution, demonstrating its adaptability.

Finally, the Physical Pain group developed the intervention **Take GOOD Care of Yourself**, prototyped in three departments as a self-care day, held over one or two days in order to accommodate different shifts, featuring massages, relaxation techniques, and educational content. Evaluations indicated a significant short-term improvement in perceived well-being, and feedback emphasized the importance of maintaining and expanding this type of initiative. Based on the lessons learned, a project was developed for the implementation of a restorative room, which is currently in the planning phase.

Consolidated participation in the groups totaled 336 presences across 12 meetings, with an average of 7 people per group and an average adherence rate of 23% of registrants. Meeting satisfaction averaged 4.92 (on a scale of 1 to 5) and the NPS (Net Promoter Score) was 97. Approximately 65 spontaneous comments were recorded in evaluation forms across the four working groups during the meetings. Analysis of collected comments highlighted especially the categories **Connection & Community** (21 mentions) and **Opportunity for Growth** (14 mentions).



Figure 7: Analysis of Comments from Working Group Evaluation Forms.

Examples of emerging perceptions included: "Very happy to see dreams move from paper to reality and emphasize well-being for all of us, congratulations to us and management for another guaranteed successful proposal" and "All meetings have brought clarity and improved conduct, allowing us to be even better prepared for new challenges."

Qualitative reflections reveal that the Committee's impact goes beyond the institutional sphere, reaching professionals' personal lives. One participant highlighted that participating in the group increased motivation and improved her performance in both work and personal/family life. She reported that after a period of demotivation, the recognition and support received in the Committee contributed to a significant transformation in her way of acting, enabling engagement in other institutional spaces such as CIPA (Internal Accident and Harassment Prevention Committee) and the Nursing Ethics Committee. For this professional, participation in the Committee became a mission, bringing purpose and renewing motivation.

5. DISCUSSION

The results obtained corroborate the scientific literature on the efficacy of codesign as a methodological approach for developing solutions in healthcare contexts. Consolidated participation in the groups and qualitative outcomes demonstrate that, even in the face of limitations imposed by the nature of care work, which restricts professionals' availability for regular meetings, it is possible to engage professionals in codesign processes with significant impact. The solutions proposed and implemented in ten areas of the institution demonstrate the capacity of codesign to transform individual insights into concrete (Curedale, 2013; Stickdorn et al., 2018). The quantitative indicators analyzed, in conjunction with the qualitative data collected, suggest that codesign functioned as a strategic and participatory approach, facilitating bottom-up organizational change within the studied hospital setting.

Grounded in Simon's (1969) perspective of Design as a means to transform existing situations into preferred ones, the codesign practice in this study functioned as a space for collective knowledge construction and the translation of everyday experiences into solutions aligned with real needs. Through systematic, iterative, and collaborative processes, it reaffirmed the role of design as a mediator of organizational innovation (Buchanan, 1992; Dorst & Cross, 2001; Manzini, 2017).

The findings corroborate existing evidence on the positive multilevel impacts of codesign. At the project level, collaboration among participants fostered the creation of original, contextually relevant solutions that met nursing professionals' needs, enhancing innovation effectiveness and reducing implementation risks (Sanders & Stappers, 2008; Steen et al., 2011). At the organizational level, the process strengthened interdisciplinary collaboration, user-centered focus, and internal innovation capabilities, factors essential for solution sustainability and scalability (Meroni et al., 2018). Additionally, active participation in problem identification and solution development fostered empowerment, engagement, and both individual and collective resilience (Partouche-Sebban et al., 2022).

The systematic use of design tools enhanced participants' capacity to structure complex problems, align perspectives, and envision innovation opportunities. This finding supports authors such as Stickdorn et al. (2018) and Curedale (2013), who highlight the importance of visual and collaborative tools in facilitating decision-making, communication, and experimentation in service design. Instruments like the Problem Tree, Ecosystem Map, and SWAP ideation technique effectively structured and energized the codesign process, while the Impact x Effort Matrix, Lean Canvas, and 5W2H supported decision-making, prioritization, and planning. The integration of these tools fostered alignment between user needs and institutional goals, promoting a safe environment for experimentation, strategic reflection, and collaborative innovation.

The application of the Double Diamond model effectively structured the workflow from problem exploration to prototyping and testing, ensuring an organized and iterative co-creation process (Design Council, 2015). Rapid prototyping and stakeholder involvement in key decisions enhanced the process's transformative potential, reinforcing codesign as an approach capable of driving sustainable, contextually aligned change.

Qualitative reflections suggest that the impact of codesign transcends the institutional sphere, positively influencing motivation, engagement, and the personal lives of nursing professionals. Testimonials regarding strengthened purpose, increased proactivity, and expanded participation in other organizational spaces indicate that participation in collaborative processes can generate lasting effects on organizational culture and team resilience (Partouche-Sebban et al., 2022).

The discussion of results highlights the importance of the designer's role as facilitator and mediator of complex processes, promoting convergence of diverse perspectives, and transforming insights into concrete solutions. In this context, co-creation is more than a design technique: it is an ethical and strategic mechanism that enables individuals to share experiences, negotiate interests, and contribute to meaningful changes, reinforcing user centrality and organizational engagement (Sanders & Stappers, 2008; Steen et al., 2011; Manzini, 2016).

Despite its benefits, implementing codesign in hospital settings involves important challenges. The diversity of participants, with different levels of knowledge, responsibilities, and expectations, can generate conflicts of interest and make consensus more difficult. Institutional complexity limits the time and resources available for participation, while balancing clinical demands with collaborative activities requires advanced facilitation and conflict mediation skills. Furthermore, sustaining the solutions developed depends on organizational alignment, continued engagement, and the effective integration of innovations into daily routines without compromising care quality.

This study has limitations that should be considered when interpreting the results. The single-institution context limits generalizability, despite allowing greater analytical depth (Yin, 2015). Voluntary participation may have introduced selection bias, and the qualitative analysis, although systematic, involves interpretive subjectivity (Bardin, 2016). Additionally, the study's time frame, restricted to the codesign implementation period, does not allow assessment of medium- and long-term effects.

6. CONCLUSION

This study aimed to investigate codesign as a methodological approach for developing solutions to promote the health and well-being of nursing professionals in a hospital setting. Through a systematic, iterative, and collaborative process, involving working groups with sustained participation, solutions were proposed and implemented across ten areas of the institution, demonstrating the feasibility and relevance of codesign even within the constraints inherent to care environments.

The empirical contributions operate at multiple levels: at the project level, original solutions were generated and aligned with the real needs of professionals; at the organizational level, there was a strengthening of interdisciplinary collaboration and internal innovation capacity;

and at the individual level, active participation was associated with indicators of engagement and sense of belonging, as evidenced by qualitative data.

Although the findings indicate positive effects on resilience and cultural strengthening, these results are limited to the period of codesign implementation within a single institution, which restricts inferences regarding long-term cultural transformation and sustainability, requiring caution in interpretation.

From the perspective of contributions to design research, the study advances by systematically documenting the use of codesign methods, techniques, and tools to structure the process, support decision-making, and foster interdisciplinary collaboration in a hospital context. The role of the designer as a facilitator and mediator of collective processes proved critical for aligning perspectives and translating everyday experiences into actionable solutions, reinforcing the role of design as a mediator of organizational innovation and contributing to the field of codesign in healthcare.

Future research should incorporate multicenter and longitudinal studies to strengthen the external validity of the findings and assess the long-term impacts of codesign.

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