UNIVERSAL DESIGN 2026: ADVANCING AN INCLUSIVE AND SUSTAINABLE WORLD FOR EVERYONE

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Universal Design 2026: Advancing an Inclusive and Sustainable World for Everyone

Proceedings of the 8th International Conference on Universal Design (UD26), Galway City, Ireland, 4-6 November 2026

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Preface

"Different is the condition of everyone" (Bridget, 5th century AD)

We are now living in an ever changing and challenging world from a social, economic, political, technological, and environmental perspective. It is vital that we demonstrate that there are inclusive and sustainable approaches in which we can advance a better world for the benefit of all. Given the geopolitical, technological, and societal changes that would appear to be emerging, building networks of collaboration and communities of practice is hugely important and timely.

Universal Design can play a central role in shaping an inclusive and sustainable future. Universal Design is not a special requirement for the benefit of a minority of the population. It is a fundamental condition of good design. To support us in our journey, The Principles of Universal Design provide an evidence-based methodology for progressing the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD). It clearly stipulates that the most effective way of delivering on the promise of an inclusive society is through a Universal Design approach. The United Nations Sustainable Development Goals advocate for equality, recognising that Universal Design is an important concept that should be incorporated in all person-centred policies. These include Quality Education, Decent Work and Economic Growth, Reduced Inequalities, and Sustainable Cities and Communities.

It is important to consider universal design approaches that recognise the many layers of influence:

- At the systemic level: Legislation, standards, frameworks, and directives, including the adoption of universal design at national and regional levels
- At the organisational level: Groups, businesses, and communities, policies and procedures, community-based initiatives for growing and sustaining innovation and sustainability
- At the individual level: Needs and abilities of individuals and families in the design of physical and digital environments, products, services, systems, supports and spaces

This approach shifts the focus towards authentic human values and experiences. Critical to this are co-design activities and peer research. The voices of people with diverse abilities and experiences are key to equity and sustainable design.

Moving from broadly defined policies to concrete actions can transform barrier-laden environments, systems, and services into inclusive and connected opportunities for everyone. We therefore must take note of the words of Bridget, Celtic goddess of Ireland, referenced at the start, to ensure equal participation by all in every aspect of life's activities.

The papers in this publication represent a call to action that highlights the interdependence of people and nature through the lens of inclusion and sustainability, with an emphasis on creative collaboration. They represent practical steps grounded in good design and focus on all stages of the life-course. This collection of diverse voices

and opinions discusses the potential of Universal Design, and the challenges in moving from policy to action.

Whether the person is someone who experiences accessibility barriers, or a politician, policy maker, designer, developer, researcher, or practitioner, everyone has a voice in the discussion. This collection seeks to amplify those voices, and to nurture those collaborative capabilities, which we all possess.

The papers in this publication are divided into four themes: Social Contract, Smart and Liveable Cities and Communities, Reducing Barriers, and Education, Innovation and Work. However, each of these thematic areas should not be viewed in isolation. To paraphrase the poet John Donne: NO person is an island, and it is thus with the world in which we live, work, and play.

These proceedings are complemented by a digital compendium of extended abstracts, showcasing practical presentations and work submitted to the conference. Together, these collections capture the breadth of contributions shared at UD26. We hope they will serve as a valuable resource for practitioners, researchers, policymakers, users, and disability and minority group advocates.

We wish you, therefore, a céad míle fáilte (one-hundred-thousand welcomes) to this publication and the many voices and disparate opinions it contains. It is our hope that it leads you on a journey of discovery and debate, and ultimately to the point where the evidence demonstrates that Universal Design is good design. Through this we can move from policy to action, to celebrate the condition of difference which represents each and every one of us.

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Details of the Peer Review Process

There were two strands available for authors to submit their contributions for UD26. These were scientific papers and practical contributions. The review process involved 78 dedicated reviewers, who carried out approximately 700 reviews across two distinct

phases. In each phase, almost all submissions were evaluated by two or more peer reviewers. This ensured a comprehensive examination of each submission.

During the first phase, authors were asked to submit 500-word abstracts, which were reviewed with a view to determining overall quality and broad alignment with the conference. Feedback was provided to authors. The second phase consisted of full review of 8-page scientific papers. The objective here was to choose the most appropriate contributions for inclusion in this volume, and for oral presentation at the conference.

The evaluation of submissions was conducted using a mixture of 5-point scales, 10-point scales, and free-text fields in which reviewers could leave constructive feedback for the authors, and comments for programme chairs. Reviewers were encouraged to consider several criteria, including:

- Relevance to the conference
- Originality,
- State of the art
- User involvement
- Readability
- Scientific quality

In situations where there was a large discrepancy between review scores, or where reviewers expressed widely differing opinions, additional reviews were carried out. This ensured a consistent, data-driven review process.

Following notification of review results, authors with accepted contributions were asked to prepare camera-ready versions of their submissions. They were asked to take reviewers' feedback into account when preparing the final versions of their papers.

Number of Submitted Papers

We received a total of 279 submissions across all conference tracks. 95 of the contributions received were scientific papers. 62 scientific papers were accepted for publication.

Additional Information

The most frequently occurring topics of submitted, and accepted, papers, were:

- Built Environment,
- User participation
- Standards, guidelines, and toolkits
- Curricula, Learning, teaching, and assessment
- Training and professional development
- Digital environments.

The conference received submissions from 30 countries. The majority of submissions came from Ireland, followed by The United States of America, The United Kingdom, Australia, and Norway. Reviewers were from 16 countries. The majority came from Ireland, followed by The United States of America, The United Kingdom, and Norway.

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Co-Designing with Multi-Level Stakeholders as a Universal Design Strategy for Restructuring Long-Term Services and Supports for Persons Aging with Intellectual Disability

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Abstract. This paper presents the methodological framework of an ongoing doctoral research project in Bergamo and Lecco (Italy), aimed at co-designing a care model for aging in place among persons with intellectual disabilities, addressing the structural inadequacy of existing Long-Term Services and Supports. The study combines Ethnographic Case Study methodology with Co-Design Research, structured around the McKinsey 7S Framework as a shared analytical vocabulary across stakeholder levels. A multi-level co-planning approach engages three stakeholder groups (institutional - strategic decision-makers, operational - service coordinators and staff, and experiential - persons with intellectual disabilities) through three methodological tools: Change-Oriented Delphi, Design Thinking Workshops, and Photovoice. The paper argues that this architecture operationalizes all seven Universal Design principles demonstrating that multi-stakeholder co-design, when rigorously adapted for meaningful inclusion, constitutes a UD strategy for rights-based, person-centred LTSS reform.

Keywords: Aging with Intellectual Disability, Long-Term Services and Supports, Co-Design, Universal Design, Aging in Place, McKinsey 7S Framework, Participatory Research, Inclusive Methods

1. Background and Problem Description

A global demographic transition is producing a significant increase in the number of older persons worldwide, projected to reach 1.6 billion by 2050 [1]. Among this

[1] Corresponding author: Antonella Gilardoni, University of Bergamo, Via Salvecchio 19, 24129 Bergamo, Italy. E-mail: antonella.gilardoni@unibg.it. The authors jointly developed the overarching ideas and overall structure of this article. Specifically, Mabel Giraldo is responsible for drafting Sections 1 and 2 as well as the general conceptual framework of the paper, while Antonella Gilardoni authored Sections 3 and 4. The concluding remarks reflect a collaborative effort between these two authors. Francesca Morganti provided final scientific supervision of the paper.

population, a growing proportion has lived with disability throughout their lives and is now entering later life stages. Persons with intellectual disabilities represent a particularly vulnerable subgroup due to the fact that they age 10–20 years earlier than the general population [2], presenting complex, evolving needs that existing Long-Term Services and Supports (LTSS) systems are ill-equipped to address, as they have historically been organised around either older adults or persons with disabilities, but rarely at their intersection [3]. Systemic barriers, including service fragmentation, lack of age-specific competencies, and limited self-determination, are well documented [4, 5], and are further compounded in the Italian context by compartmentalised systems with poor coordination and insufficient transition planning [6, 7].

Addressing these structural gaps is both a practical and normative imperative, mandated by international frameworks - including the UN CRPD (2006), the European Disability Rights Strategy 2021-2030, and the Toronto Declaration on aging and disability [8] - that collectively call for LTSS restructuring to promote independent living, aging in place, and person-centred solutions grounded in the active participation of persons with disabilities. When applied to service design and social policy, Universal Design principles (including equitable use, flexibility, simplicity, and tolerance for error) offer a rights-based framework for this systemic transformation, aligning closely with the CRPD's emphasis on involvement and with growing methodological calls for co-planning as a strategy for producing more inclusive and sustainable care interventions [9, 10]. In this direction, co-design has become an increasingly established practice across health and social research [11] and is now a prerequisite for some major funders within disability research [10], aiming to identify accessibility barriers at the design stage rather than during implementation [12]. Despite this, to date, persons with intellectual disabilities remain frequently excluded from participatory research processes, raising questions about whether their involvement reflects a genuine voice or merely a nominal one [13]. The reasons concern many factors: the time, complexity, and resource costs of sustained co-research [14]; a structural mismatch between conventional research formats and the communicative preferences of co-researchers with intellectual disabilities [15]; ableist assumptions embedded within academic institutions [16]; and a persistent lack of adapted facilitation and communication tools [10]. This exclusion is further compounded when the population in question is both intellectually disabled and aging: a doubly marginalized research domain in which existing studies remain disproportionately reliant on the accounts of professionals and family carers rather than on the direct participation of aging with intellectual disability persons themselves [10, 4].

Overcoming these shortcomings requires a research architecture explicitly designed to accommodate adapted tools, flexible facilitation strategies, and sustained engagement over time. The research project *Aging with Intellectual Disabilities: a co-designed and tested model for LTSS to support Aging in Place* aims to move in this direction and operationalize the UD principles through a multi-level co-design structure that allocates dedicated methods, timeframes, and communication formats to each stakeholder group. Specifically, the project aims to ensure that the voices of persons with intellectual disabilities, their support networks, service providers, and policy stakeholders are meaningfully integrated into the long-term care service reform process by framing co-design as a truly universal development strategy: a means of creating equitable, flexible service models that respond to the full diversity of the population they serve.

2. The context: the overall Research Project

Before going into the merits of the study, which is the subject of this paper, it should be noted that it is part of the project *Aging with Intellectual Disabilities: a co-designed and tested model for LTSS to support Aging in Place.* This research project aims to co-design and tests a care model supporting LTSS in promoting *aging in place* for persons with intellectual disabilities aged between 50 and 70 years old, adopting an ecosystemic approach across the provinces of Bergamo and Lecco (Lombardy, Italy), in collaboration with nine social cooperatives and two provincial coordination bodies. The methodological framework combines an Ethnographic Case Study design [17] with Co-Design Research [9], enabling both deep contextual understanding of individual cases and participatory model development grounded in the lived realities of those the model aims to serve. The epistemological framework guiding the model design is an adapted version of the McKinsey 7S Framework [18], which analyses organizational change along seven interdependent dimensions[2]. In this project, the framework serves not as a business management tool but as a heuristic lens for mapping current LTSS configurations and identifying leverage points for systemic change, providing the shared conceptual vocabulary through which all stakeholder levels engage in co-planning activities[3]. The research involves fourteen case studies (selected through purposive sampling) and three distinct participant levels: a institutional level group comprising strategic decision-makers; an operational level comprising service coordinators, support staff, and external stakeholders; and an experiential level comprising fourteen persons with intellectual disabilities. All these participants take part in co-design activities using methods and strategies tailored to their roles, skills and communication needs. This tripartite structure reflects a core UD principle: that systemic change requires the simultaneous involvement of those who design policy, those who implement it, and those who experience it [9].

3. The Co-Design Framework: A Multi-Level Architecture

The co-design phase is the methodological core of the research project [Table 1].

Table 1. Multi-level co-design architecture: methodological tools, rounds, and objectives across institutional, operational, and experiential stakeholder groups.

LEVEL	INSTITUTIONAL LEVEL	OPERATIONAL LEVEL	EXPERIENTIAL LEVEL
TOOL	Change-Oriented Delphi method [19]	Design Thinking Workshops [20]	Photovoice method [21]

[2] The seven S are: Strategy, Structure, Systems (more tangible) and Style, Staff, Skills, and Shared Values (more culturally embedded).

[3] For a more detailed description of the research design, methodology, and initial empirical findings, see Gilardoni, Giraldo & Morganti, *Aging with an Intellectual Disability: Individual Experiences and Institutional Frameworks in the Transition to Old Age*, in Nuova Secondaria, 2026.

ROUND 1: *April 2026* Immersion and alignment *Objective:* defining and understanding the problem	Participants are invited to explore their own perceptions of the phenomenon within their territorial contexts, including numerical trends, emerging needs, and systemic barriers across four analytical levels: political, organizational, familial, and territorial.	Through structured group discussion, participants collaboratively define the challenge using the *How Might We…* framework and assess the internal and external factors shaping it through a SWOT analysis.	Drawing on photographs taken by participants in advance, each constructs a personal map of their future, identifying elements present in their daily life they wish to retain, those they would prefer to change, aspects they would like to introduce, and those they wish to avoid.
ROUND 2: *May 2026* Discovery with the 7S McKinsey Model *Objective:* sharing impressions and generating solutions	For each of the seven dimensions of the McKinsey 7S framework, participants are asked to: (a) describe the current situation in their organization or region; (b) rate its functional adequacy on a Likert scale from 1 to 5; and (c) propose innovations or changes.	For each of the 7 dimensions of the model, participants are asked to generate 3 ideas and share them with the group through a brainwriting exercise (the 6-3-5 method). The session concludes with a structured review in which participants collectively identify the most promising contributions for further development.	A guided brainstorming session is conducted using the *I Like – I'd Like – I Wonder* method. Participants reflect on each of the seven McKinsey 7S dimensions, presented through Easy Read cards specifically designed for the project. Contributions may be expressed verbally, visually, or through images.
ROUND 3: *June 2026* Design the prototype *Objective:* developing an initial prototype of a service support model	Participants are presented with an operational proposal for each of the seven dimensions of the McKinsey 7S framework. They are asked to rate their level of agreement on a 1-to-5 Likert scale and to provide a brief written comment explaining their response.	Through a visual mapping exercise adapted from the Exploration Map framework, participants plot the current state of the service model and the desired goal along two axes corresponding to the *Hard S* and *Soft S* dimensions of McKinsey's 7S model.	Participants collaboratively construct a visual collage representing a prototype support model, using images selected from magazines. Each image is discussed and explained within the group, fostering dialogue around participants' needs, preferences, and aspirations.
ROUND 4: *September 2026* Join an in-person meeting to compare and validate *Objective:* validation of the prototype	An in-person plenary session brings together all three stakeholder groups - institutional, operational, and experiential - for a shared presentation and collaborative review of the three prototypes developed across the preceding rounds. Building on the outputs of Rounds 1–3, participants engage in a structured consensus-building process aimed at producing a shared, integrated service support model. The validated model will then enter an implementation phase, with piloting initiated from October 2026 across all participating services.		

According to the co-design approach [9], it is structured around four rounds of participatory activities: 1. Immersion and Alignment; 2. Discovery; 3. Design; 4. Compare and Validate. These rounds were conducted simultaneously at each of the three stakeholder levels: institutional, operational, and experiential. While the four-phase logic is shared across levels, the methods, tools and strategies employed at each are specifically

tailored to the characteristics, competencies, and communication needs of the respective participant groups.

The adapted McKinsey 7S dimensions function as the common analytical thread connecting all three levels and all four rounds. The seven dimensions are explored at each level, through tools adapted to the specific group: they structure the Delphi questionnaire at the institutional level, organise the Brainwriting exercise at the operational level, and are introduced through Easy Read cards and guided brainstorming at the experiential level. This shared vocabulary enables cross-level comparison and ensures that the co-designed model addresses the full systemic complexity of LTSS reform. This co-design approach, which relies on the same concepts and essential questions posed to different stakeholders through accessible formats [10], reflects what both the UD and co-design literature identify as a prerequisite for authentic participation: inclusion must be integrated into the process from the outset, through tools that enable real involvement rather than token participation [9, 12].The following sections describe, for each stakeholder level, the specific methods adopted and the rationale for their selection.

3.1 Institutional Level: Change-Oriented Delphi

At the institutional level - which includes directors and managers of cooperatives, provincial professionals, and health service directors - the change-oriented Delphi method [19] is used to build structured consensus among strategic decision-makers regarding the obstacles, current configurations, and proposed innovations for the restructuring of LTSS. The rationale behind this choice lies in the distributed nature of expertise among the stakeholders, who rarely interact within shared deliberative spaces: the problem in question, in fact, does not lend itself to analytical techniques but benefits from collective subjective judgments [22]. The *change-oriented* variant adopted here differs from the classic Delphi model in its explicit focus on organizational transformation rather than mere consensus among experts. This variant centres on iterative dialogue, using it as a tool to bring institutional contradictions to light and mobilize stakeholders toward change, consistent with what Kezar and Maxey [19] describes as nonlinear and politically sensitive change processes within complex service organizations. The process is structured in three cycles conducted via semi-structured online questionnaires, with aggregated results shared across cycles to enable gradual and informed convergence. The main distinctive features of this variant are, first, that participants are not anonymous, thus allowing for an understanding more deeply rooted in the context of their organizational positions and experiences; another aspect is that the process does not end with the data collection phase but culminates in an in-person plenary session and a subsequent follow-up, reinforcing the dialogic and transformative nature of the method.

3.2 Operational Level: Design Thinking Workshops

At the operational level, in-person Design Thinking workshops [20] are conducted, with the activity repeated in three locations to encourage participation - Lecco, Central Bergamo, and West Bergamo - involving service coordinators, support staff, and external stakeholders from the 14 services covered by the case studies. The Design Thinking approach was adopted for its ability to move fluidly from problem definition to solution generation, emphasizing empathy, iteration, and co-creation [23], as well as for its

structural complementarity with the Delphi process at the institutional level: while the latter builds strategic consensus from the top down, Design Thinking generates practice-based innovation from within the operational level. A significant challenge encountered at this level was the difficulty participants faced in moving from problem identification to the generation of concrete solutions; they often reported that institutional, regulatory, and resource-related constraints limited their ability to envision alternative models, a tension that is well documented in professional co-design contexts [9].

3.3 Experiential Level: Photovoice Method

At the experiential level, with persons with intellectual disabilities, the Photovoice method [21] was adopted, using specially commissioned photographs, magazines, and visual materials as the primary means of expression and reflection. This method enabled participants to be both the creators and interpreters of accounts of their own lives - allowing for the meaningful participation of persons with disabilities as co-researchers, in line with the principles of UD. The use of concrete and tangible tools reflects the methodological guidelines for inclusive research with persons with intellectual disabilities [24, 25] and addresses the documented limitations of standard verbal and written formats for this population [10, 12]. For the experiential phase as well, the activities took place in person, with sessions held in three locations - Lecco, Central Bergamo, and West Bergamo - to facilitate participation given the significant geographical distances. It should be noted that the prolonged engagement (approximately two hours for each activity) in abstract reasoning about future services proved challenging for several participants, confirming that methodological attention does not eliminate the cognitive effort involved in co-design [14], which requires developing projects over a longer timeframe with more frequent engagement but for shorter periods during each meeting.

4. Co-Design as UD Practice: Findings and Methodological Reflections

Although the co-design activities are still ongoing at the time of writing, the preliminary results already offer significant insights that point directly to the application of the principles of UD as the generative logic underpinning the research process itself.

At the heart of multi-level co-design lies [9] the *equitable use* of the co-design process, which ensures that no stakeholder group is excluded. The tools have been designed to suit the specific characteristics of the target group: Photovoice for persons with disabilities, supported by 'Easy Read' sheets to make abstract concepts more concrete and therefore more accessible [25]; workshops with practitioners and coordinators are held in small groups to allow everyone to take part in the discussion; the Delphi method gives equal weight to all participants, regardless of their hierarchical role.

Flexibility of use is inherent in the architecture itself: no single format is imposed at any level, and each tool adapts to a wide range of individual preferences and operational conditions. First and foremost, the flexibility of the Delphi method stands out [19, 22], as it allows participants to interact asynchronously, overcoming the difficulty of arranging face-to-face meetings. Design thinking workshops and photovoice are also flexible tools, as they allow for a variety of forms of participation and feedback, accommodating visual, narrative, gestural or schematic contributions [21, 23]. Closely

related is the third principle, *simple and intuitive use,* whereby methodological complexity is absorbed by the researchers rather than being passed on to the participants. The McKinsey 7S model is introduced progressively at every level: through simplified definitions, via practical exercises, and using illustrated 'Easy Read' worksheets [24, 12]. The multi-level co-design architecture further takes into account the principle of *perceptible information*, tailoring what is communicated, through which channel and in what format at each stage. At each round, clear summaries are provided to the Delphi participants, whilst the workshop and Photovoice materials are visual, colour-coded and spatially structured, allowing information to be grasped from multiple perspectives [20, 21]. *Tolerance for error* is inherent in the four-phase iterative architecture itself: no tool produces definitive results at the first attempt; on the contrary, the three methods used allow for and encourage iteration [9].

The sixth principle - *low physical and cognitive effort* - is carefully balanced across the various groups: at the institutional level, participation is expected to be asynchronous, respecting each individual's work patterns; at the operational level, however, and for persons with intellectual disabilities, precisely to encourage direct exchange and sharing of the experiences of individuals and services, two hours of in-person participation are required each month, for three months [9]. Finally, the *size and space for approach and participation* are addressed through the deliberate creation of spaces in which historically excluded voices can emerge as authoritative [10]. In particular, persons with intellectual disabilities were given the opportunity to meet repeatedly in small groups (3–4) to discuss the topic of ageing and services, without the presence of support workers but only with the researcher acting as a facilitator [24, 25].

5. Conclusions[4]

This paper has argued that multi-level co-design, when rigorously operationalized across stakeholder groups and genuinely adapted to ensure meaningful inclusion, constitutes a Universal Design strategy for LTSS reform: a structural approach that produces equitable, flexible, and person-centred service models by construction. As McKercher [9] contends, authentic co-design requires inclusion to be built into the process from the outset; the architecture presented here demonstrates that this commitment is achievable in practice. The combination of methodologies, structured around the McKinsey 7S Framework and deployed simultaneously at three levels, operationalizes all seven UD principles while responding directly to the call made by Tilley et al. [10] and Hewitt et al. [12] for research architectures that enable genuine, rather than nominal, participation of persons with intellectual disabilities. The project's methodological architecture may offer a replicable model for UD researchers and practitioners working on the inclusive reform of health and social care systems more broadly[5].

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[5] A comprehensive mapping of the multi-level co-design architecture to all seven universal design principles, detailing how each tool operationalizes each principle across the three stakeholder levels, is available at this link.

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